THE UNIVERSITY OF ALBERTA

COLLEGE CHARACTERISTICS ASSOCIATED WITH TRADITIONAL AND NONTRADITIONAL INSTRUCTION

by

© PAUL JOSEPH BYRNE

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled College Characteristics Associated With Traditional and Nontraditional Instruction submitted by Paul Joseph Byrne in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Educational Administration.

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Abstract

The primary purpose of this study was to ascertain whether a college espousing nontraditional instruction exhibits organizational characteristics different from those of a college espousing traditional instruction. More specifically the research examined the relationships between organizational characteristics and instructional characteristics of colleges. Two colleges were selected from the same provincial system serving similar regions, however espousing different approaches to instruction.

A conceptual framework was developed from the work by Perrow (1967) on routine and nonroutine technologies of production, and by Katz and Kahn (1966) on subsystems. A college's characteristics were conceptualized into four components: (1) instructional, (2) structural, (3) functional, and (4) psychological. Data were gathered from college documents, questionnaires and interviews with college staff.

The study resulted in a detailed description of each college, with differences identified in their instructional and organizational characteristics. Differences in instructional characteristics include delivery techniques, location and scheduling of courses, the roles of students and faculty, and admission criteria. Differences in the organizational characteristics include the organizational structure, administrative control, decision-making, policies and procedures, and terms of employment.

The sample size negates the use of the findings beyond the two sample colleges. However the conceptual framework for the study was a useful guide in collecting and reporting data and with some refinements could be useful for future research on the same topic.

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TABLE OF CONTENTS

Page

LIST OF TABLES.. xii

LIST OF FIGURES... xiii

Chapter

1. INTRODUCTION.. 1

BACKGROUND TO THE PROBLEM................................... 2

STATEMENT OF THE PROBLEM.................................... 6

SIGNIFICANCE OF THE STUDY................................... 7

RESEARCH DESIGN... 8

DELIMITATIONS... 9

LIMITATIONS... 10

DEFINITION OF TERMS... 10

OVERVIEW OF THE REMAINING CHAPTERS.......................... 13

2. REVIEW OF RELATED LITERATURE.................................. 14

SYSTEMS THEORY.. 15

Production Subsystem...................................... 16

Supportive Subsystem...................................... 17

Adaptive Subsystem.. 18

Mangerial Subsystem....................................... 18

Maintenance Subsystem..................................... 19

Chapter Page

Intersystems Model.................................. 21

Application of Systems Theory.......................... 23

TECHNOLOGY OF PRODUCTION.............................. 24

Perrow's Framework.................................. 27

Technology...................................... 28

Raw Materials.................................... 29

Task Structure.................................. 30

Social Structure................................ 32

Goals... 33

Technology of Production in Education................. 35

ORGANIZATIONAL STRUCTURE.............................. 37

CHANGE AND INNOVATION................................ 42

NONTRADITIONAL EDUCATION.............................. 45

SUMMARY.. 50

3. CONCEPTUAL FRAMEWORK................................. 52

CONCEPTUALIZATION OF THE PROBLEM...................... 52

Instructional Chracteristics.......................... 53

Organizational Characteristics........................ 56

Structural Characteristics.......................... 57

Functional Characteristics.......................... 57

Psychological Characteristics....................... 60

(i)Technology of Production......................... 60

(ii)Raw Material..................................... 63

(iii)Goals... 64

Chapter Page

(iv)Task Structure.................................... 64

(v)Value Orientation.................................. 65

SUMMARY... 65

4. RESEARCH METHODOLOGY............................... 68

REQUIREMENTS OF THE STUDY............................. 68

NATURALISTIC INQUIRY.................................. 69

Characteristics of Naturalistic Inquiry............... 70

DATA COLLECTION....................................... 71

Review of College Documents........................... 72

Questionnaire... 73

Interviews.. 75

SUMMARY... 78

5. INSTRUCTIONAL CHARACTERISTICS....................... 80

COLLEGE SYSTEM IN BRITISH COLUMBIA.................... 81

MALASPINA COLLEGE..................................... 84

Introduction.. 84

Educational Offerings................................. 85

Admission Criteria.................................... 86

Access to Courses..................................... 87

Instructional Techniques.............................. 89

Role of Students...................................... 90

Role of Faculty....................................... 91

NORTH ISLAND COLLEGE.................................. 95

Introduction.. 95

Chapter Page

Educational Offerings.................................... 96
Admission Criteria....................................... 97
Access to Courses.. 97
Instructional Techniques................................. 100
Role of Students... 102
Role of Faculty.. 102
COMPARISON OF THE COLLEGES' INSTRUCTIONAL CHARACTERISTICS 108
Educational Offerings.................................... 108
Admission Criteria....................................... 109
Access to Courses.. 110
Instructional Techniques................................. 110
Role of the Student...................................... 111
Role of Faculty.. 112
SUMMARY.. 115

6. STRUCTURAL CHARACTERISTICS............................ 116
MALASPINA.. 117
Profile of Staff... 117
Formal Structure... 119
Departmentalization...................................... 122
Formalization of Procedures.............................. 123
Communication Systems.................................... 124
NORTH ISLAND COLLEGE...................................... 125
Profile of Staff... 125

Chapter Page

Formal Structure.. 126

Departmentalization..................................... 130

Formalization of Procedures............................. 131

Communication Systems................................... 132

COMPARISION OF THE COLLEGES............................. 133

Profile of Staff.. 133

Formal Structure.. 139

Departmentalization..................................... 140

Formalization of Procedures............................. 141

Communication Systems................................... 142

SUMMARY... 143

7. FUNCTIONAL CHARACTERISTICS............................ 144

MALASPINA COLLEGE....................................... 144

Production Subsystem.................................... 144

Supportive Subsystem.................................... 150

Adapative Subsystem..................................... 155

Managerial Subsystem.................................... 165

Maintenance Subsystem................................... 175

NORTH ISLAND COLLEGE.................................... 182

Production Subsystem.................................... 182

Supportive Subsystem.................................... 186

Adaptive Subsystem...................................... 191

Managerial Subsystem.................................... 198

Maintenance Subsystem................................... 204

Chapter Page

COMPARISION OF THE COLLEGES' SUBSYSTEMS.................. 209

Production Subsystem.................................. 209

Supportive Subsystem.................................. 211

Adaptive Subsystem.................................... 215

Managerial Subsystem.................................. 218

Maintenance Subsystem................................. 220

8. PSYCHOLOGICAL CHARACTERISTICS........................... 223

Technology of Production.............................. 224

Raw Material.. 226

Goals... 228

Task Structure.. 231

Value Orientation..................................... 233

FACTOR ANALYSIS.. 235

SUMMARY OF THE FINDINGS.................................. 237

9. SUMMARY OF FINDINGS AND CONCLUSIONS...................... 244

PURPOSE OF THE STUDY...................................... 244

CONCEPTUAL FRAMEWORK...................................... 246

SUMMARY OF THE FINDINGS.................................. 247

What are the characteristics of instruction used by a college espousing traditional instruction?............ 247

What are the characteristics of instruction used by a college espousing nontraditional instruction?.......... 248

Chapter **Page**

What are the similarities and differences in instruction used by the two colleges using different philosophies of instruction?.......................... 251

What are the organizational characteristics of the college espousing traditional delivery?................ 253

What are the organizational characteristics of the college espousing nontraditional delivery?............. 256

What are the similarities and differences of the organizational characteristics between the two colleges? 259

What relationships are there between organizational characteristics and approaches to instructional delivery?... 262

CONCLUSIONS.. 265

IMPLICATIONS FOR PRACTISE AND FUTURE RESEARCH........... 269

Implications for Practise............................ 269

Suggestions for Future Research...................... 271

BIBLIOGRAPHY.. 274

APPENDIXES

A RELEVANT COLLEGE DOCUMENTS REVIEWED..................... 280

B QUESTIONNAIRE TO STAFF.................................. 282

C RELATIONSHIP BETWEEN QUESTIONS AND ORGANIZATIONAL CHARACTERISTICS.. 287

LIST OF TABLES

Table Page

1. Functions of Subsystems.................................. 61
2. Psychological Characteristics............................ 63
3. Production Ethos:Summary of Psychological Characteristics. 66
4. College Staff Profiles: College and Department........... 135
5. College Staff Profiles: Position Title................... 136
6. College Staff Profiles: Experience and Education......... 137
7. Results of a t-test on Years of Service.................. 138
8. Technology Characteristics............................... 225
9. Raw Material Characteristics............................. 227
10. Product Goal Characteristics............................ 229
11. System Goal Characteristics............................. 230
12. Task Structure Characteristics.......................... 232
13. Value Orientation Characteristics....................... 234
14. Comparison of the Questionnaire Results to the Production Ethos...239-40
15. Comparison of Instructional Characteristics of the Sample Colleges... 252
16. Comparison of Organizational Characteristics of Colleges Espousing Different Approaches to Instruction............ 263

LIST OF FIGURES

Figure Page

1. Technology.. 29
2. Raw Material.. 30
3. Task Structure.. 32
4. Social Structure.. 33
5. Product Goal.. 34
6. System Goal.. 35
7. College Characteristics.. 53
8. Focus Areas for the College Characteristics............... 54
9. Subsystem Components of an Organization.................. 59
10. Primary Data Sources for the College Characteristics...... 79
11. Malaspina College Organizational Structure................ 120
12. North Island College Organizational Structure............. 127

CHAPTER 1

INTRODUCTION

Many nontraditional instructional approaches have been attempted by educational organizations, including audio-tutorial courses, educational television and computer-assisted instruction. To date, many of these and other similar nontraditional approaches to instruction have failed to make a significant contribution to the instructional processes used in education. The reasons why nontraditional instruction has failed to make a significant contribution are neither well understood nor have any dominant theories emerged from research on the topic.

No research attention appears to have been given to the relationship between nontraditional approaches to instruction and organizational characteristics. This study is an examination of organizational characteristics associated with traditional and nontraditional instruction. The primary purpose of the research was to determine if there are distinguishable organizational characteristics associated with traditional and nontraditional instruction.

BACKGROUND TO THE STUDY

Instruction is commonly used in education to refer to the transmission of subject matter to learners. The actual process of instruction is complex, with educators continuing to study and debate such issues as the best methods of instruction and how learning occurs. It is unlikely that one could find agreement among educators on a definition of instruction; however, for this study instruction will be conceptualized in its most comprehensive sense as having six descriptive components: (1) educational offerings; (2) admission criteria; (3) access to courses; (4) instructional techniques; (5) role of the student; and (6) role of the instructor.

One aspect of the study was to describe these components and report the differences in colleges labelled traditional and nontraditional. A working definition was needed in order to select the sample institutions. Therefore, traditional instruction was considered to be an approach to instruction that brings groups of students together in regularly scheduled classes that are offered over a predetermined time frame (e.g. 15 weeks or a semester) and require participation in and attendance at the classes. The instructor has the primary tasks of planning and initiating activities, disseminating and pacing course content, giving direction to students, responding to questions and evaluating students. Instructional techniques include lectures and seminars, reading assignments and the occasional use of other media such as video tape and overheads.

The concept of nontraditional instruction has numerous definitions and applications. Both the definitions and the applications of nontraditional instruction are fraught with problems and disagreement. Reasons for these definitional problems include both the variety and blending of traditional and nontraditional instructional techniques by instructors, making it difficult to define either term precisely or to identify a clear dichotomy between the terms. Related to the use of nontraditional instruction are concerns expressed by educators about being replaced by new forms of communications technology, such as the computer, that have been associated with nontraditional instruction. Furthermore, in our society, traditional and nontraditional are value-laden terms which can imply one is preferential to the other, although no such claim is made in this study.

By definition, nontraditional instruction should include everything not included under traditional, however, this would produce an unmanageable definition. As a working definition, nontraditional instruction is assumed to refer to approaches to instruction that provide the opportunity for students to have access to courses of study at times and in locations convenient with their personal schedules and to progress through the courses at a pace they choose. The primary task of the faculty changes from that of a lecturer (as per traditional instruction) to a facilitator and mentor working with individual students rather than groups of students. Instructional techniques are dependent on the packaging of course content and learning materials.

The course content is often packaged using a variety of media formats such as a series of video tapes with a student manual or, in the case of distance delivery or off-campus offerings, use may be made of teleconferencing to enable verbal interaction between the instructor and students.[1]

Interest in nontraditional instruction is precipitated, in part, by the attention given to the new communications technologies, especially the microcomputer, and to environmental factors such as increased demand for post-secondary offerings, particularly by the part-time adult learner, and by the limitations of operating budgets. In addition, some government departments are trying to stimulate interest in nontraditional approaches to instruction. For example, Alberta Advanced Education, in a paper entitled The Context for Continuing Development of Post-Secondary Education Services (1982:6), has proposed that a "major challenge is to apply appropriate interactive communications technologies to complement, and provide an alternative to, the existing program delivery capabilities of institutions." This challenge is predicated, in part, on the assumption that "during the decade of the 80's increasing pressure will continue to be placed on institutions to establish and assist in the operation of off-campus delivery approaches..."(1982:6). Four provinces have established organizations to provide educational offerings province-wide using nontraditional approaches:

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[1] A review of the literature on nontraditional instruction is reported in Chapter Two.

Ontario (TV Ontario), Saskatchewan (Saskmedia), Alberta (ACCESS) and British Columbia (Knowledge Network and the Open Learning Institute).

There are several post-secondary institutions that espouse nontraditional approaches to instruction. A list of such Canadian organizations would include Holland College in Prince Edward Island, Tele-Universite and College Montmorency in Quebec, the Independent Learning Centre at Seneca College in Ontario, Athabasca University in Alberta, and North Island College in British Columbia. In addition, some post-secondary educational organizations that rely primarily on traditional approaches have developed special departments to implement nontraditional approaches to instruction, such as teleconferencing and computer-managed learning.

For those organizations wanting to introduce nontraditional instruction, there is a lack of research and information pertaining to the organizational and support needs for such approaches to instruction. In addition, questions need to be answered, such as: In what ways does nontraditional instruction differ from traditional instruction and what implications do these approaches have for the organizational characteristics of institutions? More specifically, from an administrative perspective, questions need to be addressed pertaining to which operational characteristics are compatible with nontraditional instruction or indeed if there are organizational characteristics unique to nontraditional approaches.

The primary purpose of this study is to ascertain whether a college espousing nontraditional instruction exhibits organizational characteristics different from those of a college espousing traditional instruction. More specifically, answers to the following questions were sought:

a) What are the characteristics of instruction used by a college espousing traditional instruction?

b) What are the characteristics of instruction used by a college espousing nontraditional instruction?

c) What are the similarities and differences in instruction used by two colleges espousing different philosophies of instruction?

d) What are the organizational characteristics of the college espousing traditional instruction?

e) What are the organizational characteristics of the college espousing nontraditional instruction?

f) What are the similarities and differences in the organizational characteristics between the two colleges?

g) What relationships are there between organizational characteristics and espoused approaches to instruction?

SIGNIFICANCE OF THE STUDY

There have been many studies on the relationship between technology and various organizational characteristics such as structure (e.g. Woodward, 1965; Pugh, 1971; Lawrence and Lorsch 1967). Most of these studies have been conducted in manufacturing organizations, somewhat limiting the applicability of the findings to non-manufacturing organizations such as educational institutions. Given the array of communication technologies that are now available to educational organizations, it is timely to research the relationships between technologies used in education and organizational characteristics.

The newer forms of communications technologies such as micro-computers and laser discs, present new opportunities and challenges to education. Hoy and Miskel (1978), borrowing from the work of Kahn and Wiener (1967), have identified several future technological advances that are likely to influence instructional delivery. Included in the list of nine technological advances are three that seem pertinent to this study (1978:273): (1) inexpensive, high-capacity, wide-ranging communication systems, (2) general availability of computers to homes and businesses, (3) home education through video and computerized and programmed learning. Hoy and Miskel (1978:274) view these three technological advances as replacing face-to-face interactions with electronic ones and caution that their potential affect on an organization is likely to be highly problematic (1978:274).

The substitution of face-to-face interactions with electronic ones implies that our current practice of going to the office or the campus of a college may not be required for some activities. For example, an employee or student may work at home linked to an office or campus electronically. The implications of these new communications technologies for the administration of an educational organization are not well understood.

More specifically, the study has significance for three aspects of educational administration. First, it contributes to the knowledge of the relationship between approaches to instruction and administrative structures. Second, it reveals some organizational characteristics for consideration by administrators prior to implementing nontraditional instruction. Third, the study provides some insights into existing situations within the sample colleges that could prove useful to their operation.

RESEARCH DESIGN

This research was conducted as a comparative study of two community colleges with a different orientation to the delivery of instruction. The actual design of the study (detailed in Chapter 4) was guided by the problem statement questions with primary focus on two areas: (1) approaches to instructional delivery and (2) the organizational characteristics related to instruction. A "production ethos" has been developed as part of the conceptual framework (Chapter Three) and is used as one characteristic of each college. Other organizational characteristics are described in terms of subsystems, one of which, the production subsystem, is responsible for instruction.

The study is delimited to two colleges in order to provide an opportunity to prepare detailed descriptions of each and their respective approaches to instruction. For comparative purposes, the colleges selected serve similar geographic and population bases and operate within the same provincial system. One college espouses a nontraditional approach to instruction while the other relies primarily on a traditional approach. The two colleges chosen are North Island College (nontraditional approach) and Malaspina College (traditional approach).

DELIMITATIONS

The study is a description and comparison of what currently exists (1983-84) in North Island College and Malaspina College. In other words, the study is delimited to current practises as opposed to past activities or future directions. The focus of the study is on the instructional processes and the related organizational characteristics of each college. No attempt has been made to evaluate the quality or the success of instruction in the two sample colleges.

LIMITATIONS

The study is a comparison of two community colleges and, therefore, the findings may have limited applicability to other colleges. The small sample size also eliminates the use of inferential statistics. In addition, a minimum amount of previous research in the specific subject area of this study limits the opportunity to draw relevant findings from previously published materials. Several of the terms used in the study do not have precise definitions nor is there consensus on the application of the terms. Finally, the use of the terms traditional and nontraditional to describe instruction is subject to debate by educators.

DEFINITION OF TERMS

To establish a common understanding of the key terms used in this study, a definition of each is provided.

INSTRUCTION - a term commonly used in education to refer to the activities pertaining to the communication of subject matter, ideas, theories, directions and questions to students. There are at least six components to most instructional systems: (1) course content; (2) students; (3) instructors (4) instructional techniques; (5) admission criteria and (6) provisions for student access to learning resources.

TRADITIONAL INSTRUCTION - approaches to instruction relying primarily on the instructor to disseminate course content and to pace the presentation of content, normally during regularly scheduled classes, over a specified time frame. Although the actual techniques of instruction may vary from instructor to instructor, the predominant technique is for the instructor to meet regularly with a group of students at times and in locations established by the institution. The primary role of the instructor is information provider working with groups of students rather than with individual students.

NONTRADITIONAL INSTRUCTION - approaches to instruction relying on a variety of media formats to provide course content for students to access at a pace that is determined by the student. The techniques of nontraditional instruction are intended to provide flexibility in the scheduling, duration, and location of the activities and may include such techniques as computer-managed learning (CML), computer-assisted learning (CAL), teleconferencing, independent study, telecourses, or correspondence courses. The primary role of the instructor is a mentor or tutor normally working with individual students rather than a class of students.

PRODUCTION ETHOS - a set of psychological characteristics of a college developed from the collective attitudes of the staff toward the approaches to instruction, raw materials, goals, structure and value orientation of a college.

PRODUCTION SUBSYSTEM - The production subsystem performs those activities directly related to the production of goods or services. For the purposes of this study, it means the delivery of instruction. It consists of instructional staff, curriculum materials, the methods employed and the equipment utilized, and the learning produced and the students served. It is one of five interdependent subsystems of an organization. The other subsystems which are described in Chapter Two are: supportive, adaptive, managerial, and maintenance.

ORGANIZATIONAL CHARACTERISTICS - are descriptions of an organization. For this study, the organizational characteristics of particular interest are those related directly or indirectly to instructional delivery, and are of four types: instructional, functional, structural and psychological. (These are elaborated in Chapter Three.)

TECHNOLOGY OF PRODUCTION - is the set of related activities that operate to produce goods and/or services. For this study, the technology of production of the colleges is the set of activities for instruction.

ROUTINE TECHNOLOGY OF PRODUCTION - a production process where there are few exceptions or variations in the activities and when problems are encountered they can be analyzed without difficulty using standardized methods for resolution.

NONROUTINE TECHNOLOGY OF PRODUCTION - a production process where there are many exceptions or variations in the activities and when problems are encountered it is difficult to analyze them because there are no standardized methods for resolution.

OVERVIEW OF THE REMAINING CHAPTERS

The chapter that follows contains a review of the literature relevant to organizational characteristics and the delivery of instruction. This provides the material for the development of the conceptual framework in Chapter Three. Chapter Four details the research methodology. Chapters Five, Six, Seven and Eight contain the results of the data gathering under the headings: instructional characteristics, structural characteristics, functional characteristics and psychological characteristics. A summary and the conclusions of the study are reported in Chapter Nine.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The focus of this research is on the organizational characteristics related to how organizations produce goods or services. Literature pertaining to the research topic was drawn from several areas of organizational theory in order to address the purpose and problems of the study. Four areas of organizational research were considered particularly germane to the subject matter under study, namely: systems theory, technology of production, organizational structure and organizational change/innovation. In addition, literature on nontraditional education was reviewed to aid the development of a definition of nontraditional instruction and to provide insight into the applications of nontraditional education.

Systems theory, and more specifically subsystems, provided a means to identify and categorize organizational characteristics related to production. The technology of production literature focused on the throughput aspect of systems and enabled the comparison of routine and nonroutine production techniques. The literature on organizational structure, and to a lesser extent change and innovation, provided contextual information useful in understanding the dynamics of production within an organization. The conceptual model for this study, presented in Chapter Three, was derived from this review of related literature.

SYSTEMS THEORY

A system has been defined as (Tosi & Carroll, 1976:156) "a set of interrelated components surrounded by a boundary which absorbs input from other systems and transforms them into outputs that serve a function in other systems." Each system is purported to be comprised of subsystems and there is a relationship among these subsystems (Katz & Kahn, 1966). Although system theorists have recognized the subsystem aspects of a system, it was not until the work of Talcott Parsons (1960) that labels were assigned to organizational subsystems. Parsons employed a functional orientation to categorize organizations, eventually identifying four types: (1) economic production, (2) political goals, (3) integrative, and (4) pattern maintenance. Universities and colleges were viewed by Parsons as pattern maintenance with a dual function of socialization and modification of cultural tradition (1960:20). Within each organization there are three basic subsystems labelled by Parsons as: institutional, managerial and technical. These subsystems reflect Parson's view (1960:23) that the role of a position within an organization has more significance than that of the person occupying the position. It should be noted that the structural components of an organization (eg. the board of governors), as well as positions, can be functional in more than one subsystem (eg. supportive and managerial) at the same time.

Katz and Kahn (1966) posit that there are five generic subsystems each identified by its primary activity: production, support, maintenance, adaptation, and management. The functional interplay of these subsystems is viewed as a means for systems analysis (Immegart & Pilecki, 1973). In addition, changes that occur to one subsystem can often be linked to subsequent changes in other subsystems (Miles,1964). Of particular interest to this study are the activities of the production subsystem and how its activities influence the organization and the relationships among its other subsystems. A definition of each of the five subsystems identified by Katz and Kahn follows.

Production Subsystem

Of the five basic generic subsystems identified by Katz and Kahn, the production subsystem is often viewed as the primary or central activity of an organization. The production subsystem, also referred to as the technical core of an organization, is responsible for transforming inputs (or resources) to outputs (or goods and services) by means of a technological process (Tosi & Carroll, 1976). Technological process is used here to describe the complete process of production, encompassing tools, tasks, and people.

The notion of interdependence of subsystems in systems theory suggests that changes to the technological process will have some effect on the subsystems of the organization. Questions pertaining to the effects and the consequences of changes to the production subsystem of an organization are important considerations for management to contemplate prior to making changes. For example, if robots were introduced into the assembly line of an automobile manufacturing plant, what would be the implications for management - union relations (managerial subsystem), quality control (production subsystem), speed of the assembly line (production subsystem) and retraining staff (maintenance subsystem)? Similarly, in educational organizations, the introduction of computer-assisted instruction to the instructional delivery system (production subsystem) may raise questions pertaining to faculty workload (managerial subsystem), academic credibility of the methodology and the effects on the learner (production subsystem).

Supportive Subsystem

The supportive subsystem is linked closely with the production subsystem in conducting transactions with the environment to acquire input materials and to distribute output. Other activities conducted by the supportive subsystem include developing and maintaining good relationships with appropriate environmental factors. For educational organizations, the supportive subsystem may include a board of governors and president working to ensure that government and private funding sources are aware of the organization's needs.

Adaptive Subsystem

The adaptive subsystem activities are directed at future changes that may affect the organization. Of particular interest are those changes in the environment that could influence the survival of the organization. Activities such as long-range planning, research and development and market research generally reflect an interest in environmental changes. The activities of the adaptive subsystem are limited by Katz & Kahn's definition to that of presenting and gathering information for change. The actual decision and subsequent implementation of change are the responsibility of the managerial subsystem, however, operationally this may be accomplished by means which cut across other subsystems.

Managerial Subsystem

The managerial subsystem is described by Katz and Kahn (1966:55) as controlling, coordinating and directing the activities of all subsystems within the organization. This is accomplished by cutting across the structure horizontally with two types of managerial substructures: regulatory mechanisms and authority structure (Katz & Kahn, 1966:56). Regulatory mechanisms are dependent on specialized feedback that provides accurate information useful for decision making. For example, a college may regulate or control the number of admissions by the size of classrooms or labs or, alternatively, by the quantity of equipment available to students. It should be added that regulatory mechanisms may reflect the limitations of the organization rather than the needs in the environment.

The authority structure within an organization outlines the approved decision-making process. Katz and Kahn (1966:57) have been careful to distinguish between authority and authoritarianism implying that although the distinction is often obscured in practice, the key difference is in the separation of the executive and legislative functions. In democratic organizations, the managerial subsystem is comprised of the executive functions. The legislative functions are conducted by the membership through establishing policy, and by choosing between alternative leadership policies. In authoritarian organizations, both the executive and legislative functions are contained within the managerial subsystem. The following quote from Katz and Kahn (1966:58) captures the essence of the difference between authoritarian and democratic managerial subsystems:

> The essential difference between a democratic and an authoritarian system is not whether executive officers order or consult with those below them but whether the power to legislate on policy is vested in the membership or in the top echelons.

Maintenance Subsystem

The maintenance subsystem activities pertain to the people and equipment used in the production subsystem. In education, the equipment for production includes the individuals in the roles of faculty and academic administrators, therefore, maintenance activities are more likely to include recruitment, professional development and employment policies. As with the other subsystems, the activities related to this subsystem may be carried out by individuals who have primary responsibilities in another subsystem. For example, in colleges, faculty members may shift from production to maintenance activities when they move from teaching to participating in a committee reviewing faculty appointments or professional development funding. Katz and Kahn suggest that some organizations do not allow individuals to move in and out of subsystems but rather restrict involvement, particularly in the maintenance subsystem, to the personnel and administrative staff. Independent of who participates in it, the maintenance subsystem is primarily concerned with "inputs for preserving the system either through appropriate selection of personnel or adequate rewarding of the personnel selected" (Katz & Kahn, 1966:53).

It is important that each subsystem be viewed as a set of related activities and not equated to specific organizational departments. The significance of this characteristic of subsystems is that individuals may function in more than one subsystem and, in fact, may be required to crisscross subsystems in order to carry out their responsibilities within an organization. Katz and Kahn (1966:53) consider subsystems as cycles of activity that are tangential to each other. Subsystems, as defined by Katz and Kahn, are particularly useful to describe, and subsequently compare, activities of organizations.

Intersystems Model

The relationships between the various subsystems of an organization have also been studied using an intersystems model. The model is described by Robert Chin (1969) as having several differences over a subsystem approach to organizational analysis; primarily, that with the intersystems model each component of an organization is described as an autonomous unit. In fact, Chin (1969:304) admits that the intersystems approach "exaggerates the virtues of autonomy and the limited nature of interdependence of the interaction between the two connected systems." This view is contrary to systems theory which underscores the interdependence of subsystems working together within a system toward a harmonious state.

The intersystems model uses connectives to represent the relationships between systems and subsystems. Two types of connectives are labelled by Chin (1969:304) as conjunctive and disjunctive. Conjunctive connectives are considered to open lines for communication among systems and disjunctive connectives are considered to be negative factors affecting communications or relationships among systems. For educational organizations, the conjunctive connectives may be identified in policy and procedure manuals or, more informally, may be facilitated through staff lounges or committee participation. Disjunctive connectives, such as personality conflicts, are difficult to dislodge and may be particularly prevalent in matters pertaining to change, such as the implementation of alternative instructional delivery systems.

The underpinnings of conjunctive and disjunctive connectives can also be found in the integrative subsystem used by John Andes (1970) to describe university organizations. Andes identified five primary subsystems: (1) Institutional (2) Administration (3) Faculty (4) Students (5) Service. The integrative subsystem crosses over the boundaries of all subsystems linking together the activities of the five primary subsystems. The institutional subsystem is considered to be responsible for the legal control mechanisms such as the board of governors. The administrative subsystem includes administrative officers and academic officers from the dean level up to the president. Members of the administrative subsystem are seen as having mediating roles both within a university and with its environment. The faculty and student subsystems are equated by Andes (1970:32) to Parsons' technical subsystem and are responsible for goal achievement. The service subsystem provides the basic physical and support services such as facilities, maintenance, food, security and equipment for the other subsystems.

Andes suggests that although each of the primary subsystems is separated by function, the integrative subsystem serves to bring together the primary subsystems. Within universities the integrative subsystem can include department chairmen, the senate, faculty councils, student associations and university committees. Additional factors affecting integration within universities are communication channels particularly between administration and faculty and the overlapping of the faculty and student subsystems into departments, schools and even colleges. Of particular significance to Andes is the relatively informal communication channels that are available to both students and faculty for initiating or participating in what he calls the compliance systems of a university. Compliance systems are the procedures that are established to ensure representation and participation in the integrative subsystem. For example, the membership guidelines for an academic committee may specify that there be a representative from each of the areas of the university that could be affected by a new admissions policy.

Application of Systems Theory

One common application of systems theory is for the comparison of organizations. Comparative research using systems theory has tended to focus on the "process within organizations, uncovering the complexity of the interrelationships involved" (Strasser et al., 1981:324). The organization is viewed as an open system and is also subject to pressures and stimuli of external sources. However, the complexity of the intraorganizational processes are such that it is difficult to identify any single activity from which a causal relationship could be drawn. These processes within organizations have been described by Georgopoulos (1972:12) as including "the critical processes of resource allocation and control, of coordination of effort, of social and psychological integration, and of organizational strain and its management, all of which intervene to modify very substantially any zero-order relationship that one might find between input variables and outcomes." Similarly, Strasser (1981:326) has identified several criteria for using a systems approach to comparing organizations such as "flexibility, adaptability, capability of dealing with conflict, coordination of subunits and allocation of resources." Output criteria may be added to the list of criteria, however, they are treated as only one element in a complex set of criteria rather than the primary criteria of evaluation or comparison.

In using the subsystem models outlined in the foregoing, the assumption of clustering organizational activities into discrete units for the purpose of analyzing how an organization functions is abandoned. It may be more appropriate to assume that subsystem models provide a method to analyze how members and departments of an organization as a whole carry out their roles in pursuing organizational goals. One drawback to applying subsystems to describe more that one organization is that boundaries are arbitrarily assigned and may not conform to organizational structures. Thus, it is often necessary to describe both functional and structural characteristics of an organization in order to understand how they relate.

TECHNOLOGY OF PRODUCTION

The technology of production of an organization has been broadly defined as the work done by an organization to produce goods or services (Thompson and Bates, 1957; Pugh et al., 1963; Woodward, 1965). Pugh et al. (1963:310) have concluded that technology is "the techniques an organization uses in its workflow activities." More specifically, Thompson and Bates (1957:325) describe the technology of an organization as "those sets of man-machine activities which together produce a desired good or service." Joan Woodward (1965:4), in her research relating technology to structure in manufacturing organizations, defined the technology of an organization as "the collection of plant, machines, tools, and recipes available at a given time for the execution of the production task and the rationale underlying their utilization."

The aforementioned definitions contain the basic notion that the technologies of production are the techniques and/or activities related to producing goods or services, although Woodward has added two additional ingredients. The first is "recipes," that can be construed to be the current state of the art of how one applies the plant, machine, and tools to produce goods and services. The second is "rationale underlying their utilization," which implies compatibility between the technology of an organization and its objectives and goals.

Kast and Rosenzweig (1970:139) have incorporated three dimensions: knowledge, equipment, and techniques into their definition of technology. However, they have distinguished between technology and organizational technology. Technology is described as "knowledge about the performances of certain tasks or activities" (1970:562). Whereas, organizational technology refers to the specific "techniques used in the transformation of input into output in the accomplishment of goals" (1970:562). A key notion put forth in the writings of Kast and

Rosenzweig is that knowledge about a specific technology can be applied to vary the techniques of production to appropriately meet the organizational goals.

Hunt (1972) and Mintzberg (1979) suggest there are difficulties associated with defining technology, often caused by too narrow an examination of the concept of technology. They have argued that many researchers tend to focus on the operations technology which Mintzberg (1979:250) defines as "the instruments used by the operations to transform the input into output" and "fail to consider the broader aspects of complexity of work elsewhere." Alternatively, Hunt and Mintzberg recommend that attention should be given to two additional aspects of technology, the regulation dimension and the sophistication dimension. The regulation dimension describes how the instruments or equipment used limit or control an operator's work. The sophistication dimension refers to the intricacy of the technical system. One hypothesis posited by Mintzberg (1979:252) is that the regulation and sophistication dimensions are related to changes in the administrative structure; i.e., the more sophisticated the technical system, the more organic the management of the organization.

Hoy and Miskel (1978) have also suggested that technology has both physical and intellectual dimensions and "is not simply a machine but is a systematic, disciplined approach to objectives that uses precision and measurement" (1978:273). Perrow (1967:195) has further refined a definition of technology of production as "the action that an individual performs upon an object, with or without the aid of tools or mechanical devices, in order to make some change in that object." An important aspect of this definition is that technology is not limited to equipment and tools, but rather is the activity that occurs to produce a good or service.

Perrow's Framework

Perrow (1967, 1970 & 1979) has developed a framework for the comparative analysis of organizations in terms of their technologies. Perrow (1967:195) argues that technology "is a better basis for comparing organizations than the several schemes which now exist." He bases his argument on the premise that "we cannot expect a particular relationship found in one organization to be found in another unless we know these organizations are in fact similar with respect to their technology" (1967:203). He claims that there may be as much variance between organizations in the same category, such as schools, as there is between the different categories of organizations, such as colleges and steel mills. Perrow posits that some schools may be more like prisons and, conversely, some prisons more like schools, depending on their technology of production rather than on their function in society.

Perrow's framework is built on six key variables: technology, raw material, task structures, social structure, product goals and system goals. Each of these variables is described under the appropriate heading.

Technology. The technology of production is built on the establishment of two categories for the kind of work performed, namely: routine and nonroutine (Perrow, 1967:195). Routine work is considered to have "well established techniques which are sure to work, and these are applied to essentially similar raw materials" (Perrow, 1970:75). Nonroutine work has "few well established techniques; there is little certainty about methods, or whether or not they will work" (Perrow, 1970:75). These two categories of work can be considered to be located on a continuum, with some unique hybrids created toward the mid-point. If two continua (rather than one) are used simultaneously, a four-cell matrix is formed into which the different types of organization can be placed, on the basis of the nature of the work performed. The second dimension is related to the nature of the search techniques which are used when problems arise in the operation of the organization's business. These search techniques may be well or poorly conceptualized.

The four cells generated by these two continua are shown in Figure 1. Industries with few process exceptions and poorly conceptualized search techniques are referred to as "craft industries," those with many process exceptions and poorly conceptualized search techniques as "nonroutine industries," those with few process exceptions and well conceptualized search techniques as "engineering industries" (Perrow, 1967:196). The technology associated with each industry is referred to by the same name; i.e., craft technology, nonroutine technology, routine technology and engineering technology.

PROCESS EXCEPTIONS

SEARCH	Few	Many
Poorly Conceptualized	Craft Industries (Specialty Glass) 1	2 Nonroutine Industries (Aerospace)
Well Conceptualized	Routine Industries (Steel Mills) 4	3 Engineering Industries (Heavy Machine)

Figure 1

Technology

Raw materials. Perrow (1967:197) assigns considerable importance to the raw material variable, and suggests that this variable can be examined on two dimensions: variability and understanding. According to Perrow (1967:197), raw material that varies would be a more prominent characteristic of nonroutine organizations, whereas routine organizations tend to work with materials that are constant. Perrow (1967:197) adds that he is "not referring to the essence" of the material, only to "the way the organization itself perceives it." In the case of people-processing organizations, the raw material variable impacts on the organization by virtue of assumptions about the nature of the people being served rather than established and actual characteristics, as is shown in Figure 2.

		VARIABILITY	
		Constant	Variable
UNDERSTANDING	Poor	Hybrid (Socializing Institutions)	Nonroutine Organizations (Psychiatric Agency)
	Good	Routine Organizations (Custodial Institutions)	Hybrid (Training Agency)

Figure 2

Raw Material

Task structure. Task structure is considered by Perrow (1967:198) to have a control and a coordination dimension. The control dimension has two components: discretion and power. According to Perrow (1967:198), discretion "involves judgements about whether close supervision is required on one task or another, about changing programs, and about the interdependence of one's task with other tasks." Power is the ability to "mobilize scarce resources and to control definitions of various situations, such as the definition of the nature of the raw material"(Perrow, 1967:198). The coordination dimension is operationalized through feedback and planning with routine organizations relying more on planning than on feedback with the converse for nonroutine organizations.

The coordination dimension pertains to the interaction of tasks within groups which can be achieved either through planning or through feedback, the former being active and the latter reactive. The assumption is that routine organizations and their environments tend to be more stable and predictable and, therefore, are better suited to a planning approach. Nonroutine organizations tend to function in less stable and predictable environments and, therefore, rely more on a feedback approach for coordination. A four-celled task structure is created by the interaction of these two characteristics (Figure 3).

		CONTROL	
		Power	Discretion
COORDINATION	Feedback	Hybrid	Nonroutine Organizations
	Planning	Routine Organizations	Hybrid

Figure 3

Task Structure

Social structure. Social structure includes "the non-task-related but organizationally relevant interactions of people" (Perrow, 1967:200). There are four aspects of social structure: social identity, goal identity, instrumental identity, and work or task identity. Social identity refers to the interactions of people who are not task related. Goal identity can be viewed as the commitment of an individual to the mission and goals of the organization. Instrumental identity covers job security, pay and other forms of benefits to the employee. Work or task identity is the satisfaction one derives from carrying out technical tasks. For Perrow, those in nonroutine organizations would place more importance on the mission and goals of the organization and satisfaction in carrying out tasks, than those in routine organizations who would place more importance on job security and benefits (Figure 4).

BENEFITS

GOALS	High	Moderate
High	Hybrid	Nonroutine Organizations
Moderate	Routine Organizations	Hybrid

Figure 4

Social Structure

Goals. Organizational goals, as defined by Perrow (1967:202), "can be placed in two categories - product goals and system goals." Product goals relate to nature (quantity and quality) of the product. System goals relate to the characteristics of the system as an operating entity independent of its product. Routine organizations would tend to have product goals that give emphasis to high quantity of production with moderate attention to quality, with the converse for nonroutine organizations (Figure 5).

		QUALITY	
		Moderate	High
QUANTITY	Moderate	Hybrid	Nonroutine Organizations
	High	Routine Organizations	Hybrid

Figure 5

Product Goal

System goals pertain to stability and risk, and Perrow (1967:202) suggests that the routine technology organization will tend to have more stable, low-risk system goals than the nonroutine organization which will have less stable and more high-risk system goals (Figure 6).

EXPLICITNESS

STABILITY		Well Defined	Loosely Defined
	Low	Hybrid	Nonroutine Organizations
	High	Routine Organizations	Hybrid

Figure 6

System Goal

Technology of Production in Education

Within educational organizations, the technology of production or workflow activity is considered by Azumi & Hage (1972) to have a primary goal of adding value to the school's product; i.e., graduates. The actual technology of production for post-secondary institutions has been broadly defined by Newberry (1971:42) as "the operations of the institution, with particular reference to those operations affecting the students." Such an all-inclusive definition can lead to a rather eclectic description of an educational organization's technology of production that encompasses virtually all parts of the organization. However, in education, the teacher seems to be accepted as the central component of production. The importance of the teacher is highlighted by Goodwin (1977:106): "... the teacher is the focal point in a network of relationships with major responsibility for orchestrating the delivery of educational services, and for conveying a sense of purpose to other members of the system...."

Placing the teacher at the centre of production provides the individual teacher with the potential to decide the approach to instruction. It has been suggested by Burnett (1968:55) that the choice of instructional delivery made by a teacher is dependent "on how the individual teacher perceives his role within the context of learning theory." It could be added that how a teacher views his students (eg. as receivers of information or active participants in a search for knowledge) may also influence the type of instructional delivery employed.

One of the limitations in viewing the teacher as the primary technology of production in post-secondary education is that an instructor is normally hired for his expertise in an appropriate content area rather than his training or skills as a teacher. Millet (1980:95) has drawn attention to this issue:

> In the learning process - i.e., the interaction of scholar/teacher and/or student - the emphasis in college or university is upon content rather than upon procedure. Faculty members are first of all specialists in an area or field of knowledge or cultural performance; only secondary is the scholar/teacher a competent communicator or transmitter of knowledge or of cultural skill. Academic management is continually complicated by this faculty characteristic of content specialization and of a lesser competence in the communication process.

Although the teacher may be viewed as the central component of most instruction, there are various regulation dimensions within educational organizations that may limit the variations in the technology of production that can be employed. These regulation dimensions may be described in terms of structural characteristics. Newberry (1971:42) has identified eight characteristics of colleges that can influence the technology of production used: (1) Variation in Teaching Groups, (2) Technical Innovations, (3) Scheduling Block, (4) Selection of Students (interview), (5) Selection of Students (written test), (6) Students to Instructor Ratio, (7) Students to Administrator Ratio, (8) Students to Employee Ratio. Although Newberry's list of variables could be expanded, it is illustrative of the variety of structural factors that can affect the instructional delivery approaches utilized by an educational organization.

ORGANIZATIONAL STRUCTURE

The activities related to the technology of production (production subsystem) often cross over the departmental boundaries of the formal structure of an organization. However, the structure of an organization does provide a schematic that depicts the departments and staffing positions of an organization and the formal linkages between them. Of particular interest to this study are how interaction or linkages actually occur among departments (formal channels or informal channels) and what, if any, adjustments occur to facilitate the unique requirements of particular technologies of production.

Definitions of organizational structure are often prefaced with a statement noting that there are at least two kinds of structure: formal and informal. The formal structure is used to describe the division of labor, hierarchy and subsequently the channels of communication. More specifically, the formal structure defines areas of accountability (Dalton et al., 1968) and identifies the different positions and subunits of an organization. Hall (1963:33) has identified six dimensions of formal structures: (1) division of labor, (2) hierarchy, (3) rules and duties, (4) procedures, (5) impersonality of human relations, and (6) promotion and selection. Pugh (1968:73-79) has also identified similar dimensions of formal structures that he considers as structural variables, namely: specialization, standardization, formalization, centralization, and configuration. Complementing these structural variables are contextual variables (Pugh,1968) that include the origin, history, ownership, control, size, charter, location, dependence and the technology of an organization. Each of these contextual variables has the potential of influencing the structure.

Structural variables have also been placed in a hierarchy, some designated as primary structural variables (underlying dimensions of structure), others as secondary structural variables. Arlyn Melcher (1976) identified four primary structural variables as: (1) size (pressure from numbers), (2) workflow (specialization at the operative level), (3) tasks (degree of complexity), and (4) spatial-physical factors (barriers within and among groups). Similarly, Newberry (1971:20) has suggested four underlying dimensions of structure: (1) structuring of activities, (2) concentration of authority, (3) line control of workflow and (4) support component. On these bases or foundation variables are built secondary structural variables.

The secondary structural variables identified by Melcher (1976) are divided into two clusters: those relating to the formal authority relationships and those relating to the formal control system. Formal authority relationships include the distribution of authority (delegation) and specialization and grouping at the supervising level (departmentalization). The formal control system encompasses the focus of formal incentives (rewards and penalties), level of formal work demands (standards), and the direction, from an institutional perspective, of the individual employee (control).

Hage and Aiken (1967) used variables similar to those found in the primary and secondary structural variables. Rather than give them a hierarchical status, Hage and Aiken (1967:88) have defined five dynamic structural dimensions that address the control and authority aspects of structure: (1) complexity of job performance, (2) centralization of authority, influence and power, (3) formalization through regulations, sales and customs, (4) stratification through status, prestige and rewards, and (5) flexibility, which incorporates the amount and rate of change.

Of the several threads that run through the various dimensions and variables of formal structure, there are at least two that have been given particular attention in research, namely: organizational size and technology. Technology, in particular, is considered a major contributor to organizational structure (Hall, 1977:111). Arygis (1964) suggests that if the technology is the sole source of structure, then technology must change before structure. Whether or not technology can be viewed as the sole source of structure would seem limited to those organizations where there is one predominant form of technology, such as a single assembly line. However, in organizations where a variety of technologies are utilized, the impact of technology on structure may be diminished.

Human service organizations are considered to use a variety of technologies of production. For example, Hall (1977:111) claims that in organizations that work with humans, such as universities or hospitals, a variety of techniques are available for use, and a choice is made to select one based on feedback from the client. In such organizations, the choice of which technology to use is unlikely to be based on the structure nor does it necessarily call for a change in structure. However, Hall (1977:111) does acknowledge "... that organizations whose activities acquire technological innovations through research and development would almost by definition have proportionately more personnel involved in the administrative (supporting activities) component." This suggests that organizations where several forms of technology are practised may require a somewhat different staffing arrangement than those organizations with a predominant type of technology.

Scott (1972) has examined the technology and the organization of work for professionals in hospitals. He proposes that the problems of relating technology to structure in hospitals and other similar organizations can be illustrated by examining the professionals employed by the organization. His first observation is that there are several different professional groups in hospitals: physicians, nurses, social workers, among others. Furthermore, within given professional groups, there can be significant differences as to the methodology and techniques that are used to meet patient needs. There can also be considerable divergence in task conceptions between professionals. One example given by Scott (1972:151) is that the clinical physician may place emphasis on the need to have considerable latitude (nonuniformity) in treating the medical needs of individual patients, whereas the physician with administrative responsibilities may differ from the practising physician due to the need to meet the needs of a patient population rather than an individual patient.

Some similarities can be found between Scott's work on hospital staffing and the staffing of colleges. For example, colleges have several categories of professional staff: faculty, counsellors, accountants, instructional designers, administrators and so on. Within any of these professional categories, there may be numerous specialties. The category labelled "faculty," for the purpose of identifying those with teaching responsibilities, may include psychologists, sociologists, social workers, nurses, who bring their professional training and experience to their faculty role within a college.

The variables and dimensions of formal structure, although important windows through which to view structure, are not the only vantage points from which to analyze an organization. Alternatively, the informal structure is proposed by some as providing more accurate reflection of how things really get done. Blau and Schoenherr (1971:111) describe the informal structure as the underlying process that legitimizes the formal authority. Characteristic of informal structures are charismatic individuals who are often viewed as possessing the "real" authority within an organization often without the normal prerequisites of position or title. However, it is important to note that the informal structure has its roots embedded in the formal organization and according to Blau and Scott (1962:6) the informal systems are "nurtured" by the formality of an organization's arrangements. One additional caution about informal structures is given by Blau and Scott (1972:6):

> The distinction between the formal and informal aspects of organizational life is only an analytical one and should not be reified; there is only one actual organization.

CHANGE and INNOVATION

One aspect of the relationship between organizational structure and technology is that structure can influence technological change

(Hall:1977). More specifically, organizational structure is viewed as contributing to the complexity of the process of change by the resistance embedded in such organizational factors as centralization, formalization (stratification), high rate of production (the higher the volume of production the lower the rate of program change), complexity of structure, and efficiency (Michael, 1981:29).

Organizational change has been defined as the adaptation made by the organization as required by the environment in which it appears (Michael:1981). Furthermore, Griffiths (1964:429) suggests that "the degree and duration of change is directly proportional to the intensity of the stimulus from the supra-system." According to Mortorana and Kuhns (1975:2), demands for change in educational organizations are based on rising expectations that teaching should adapt itself to the needs of the learner.

Mortorana and Kuhns (1975:2-6) have identified several factors generic to the demands for change in education: (a) public disenchantment, (b) pressure for accountability, (c) competition for students and dollars, (d) a different student body, (e) students insistence on flexibility, (f) concern for effective learning, (g) developments in technology, (h) federal programs, and (i) shift to a buyers' market.

Change and/or innovation in education, especially as it pertains to instruction, is considered to have been minimal during the past thousand years of post-secondary education (Tuma & Kibbee:1977). Kibbee (1977:5) suggests that for universities and colleges the "influence of the monastery and the cloister remains pervasive." Kibbee (1977:5) underscores his views on instructional change by stating that "the quintessence of educational technology and the longest lasting innovation in education was and is, of course, the book." One reason posited by Kibbee (1977:6) for such a torpid rate of change in instructional delivery is the "lack of convincing evidence that the technological road is more (or at least equally) educationally effective than the conventional familiar way we know so well and with which we are so comfortable."

Providing adequate proof that the technological road for instructional delivery is as good or better than traditional methods is a major problem facing educational innovators who are recommending changes to instructional methods. Aside from the technical problem with equipment and the fear by some instructors of being replaced by machines, the proof required to demonstrate the effectiveness of changes to instructional methods requires, at a minimum, good instructional materials, and sound knowledge of theories and methods of instruction.

Anastasio and Morgan (1972) researched factors inhibiting the use of computers in instruction and found a circularity of problems. The cycle includes the lack of a mass market and market incentives, resulting in a lack of good materials and systems thereby making it difficult to adequately demonstrate the instructional benefits. It is speculated by Anastasio and Morgan (1972:49) that an infusion of funds at any point in the cycle could reverse the pattern. For example, money allocated for the production of good materials could provide adequate demonstration examples to provide educators with an opportunity to test educational materials in the field. Subsequently, should the materials prove to be of value, requests for the material would create a viable market for production. With respect to such technological changes, the question raised by Michael (1981:102) is whether the organization is a basic inventor and exploiter of its own research or does it "wait for others, and assume a second-bite-of-the-apple approach...."

NONTRADITIONAL EDUCATION

To establish a definition of nontraditional education the Carnegie Commission on Non-Traditional Study (1973) asked post-secondary institutions to identify their nontraditional offerings. The instructions given to the respondents to determine what is nontraditional were to list any specially designed programs that were:

> ...based on new or unconventional forms of education free of the time and place limitations of traditional classroom instruction (cited in Cross & Valley, 1975:14).

Supplemental to this definition was that the activity could be considered unconventional on any of four dimensions:

1. type of student (70%),
2. location of instruction (67%),
3. method of instruction (57%), and
4. content of program (48%) (cited in Cross & Valley, 1975:15).

The percentage figure in brackets represents the frequency of response to each dimension, suggesting that the type of student and location of instruction were perceived as the two most predominant characteristics distinguishing nontraditional from traditional education.

Central to nontraditional education are the needs of the student and the attention given to these needs. Cross and Valley (1975:2) highlight the importance of learner needs in describing nontraditional education as:

> more of an attitude than a system, that puts the student first and the institution second, concentrates more on the former's need than the latter's convenience....

If institutions are to put the needs of the student first, it will be necessary to understand what these needs are and what can be done to meet them. In an earlier work, Gould and Cross (1972:14) provide their prescription for nontraditional study as:

> ...a set of learning experiences free from time and space limitations, organized so that the student may acquire new skills or attainments extending his personal, intellectual, esthetic, or vocation development.

Putting the learner's needs before the institution's needs is reflected in the four major traits of nontraditional education posited by Gould and Cross (1972:1-20). The first is based on the premise of full educational opportunity to develop the learner's potential as a member of society without being restricted by the barriers of age, previous formal education or circumstance of life. This is a democratic philosophy that faces the limitation of political, social and fiscal factors. The second characteristic is linked to the degree of flexibility in instruction. Here the ideal is a loosening of existing rigidities in instruction and learning provisions that are often the result of structure, method, content and procedures. These first two characteristics are presented by Gould and Cross as principles that are desirable if nontraditional education is to overcome some of the barriers considered inherent in traditional education.

The third characteristic is the need to recognize the extent of learning that takes place outside the formal educational system. Included would be the education and training activities assumed by business, industry, labour unions and governments. Finally, the fourth characteristic is the concept of individualized learning as defined from two perspectives: individualized opportunity and individual responsibility. Individualized opportunity refers to the student seeking out the type of education most suitable and necessary for him. Individual responsibility implies that once the student has established his educational goal(s) and course(s) of action, he monitors his motivation and progress toward his goal(s).

Similar regard for the learner's needs is reflected in the three basic tenets of nontraditional education as identified by Harlacher (1974:1-15). First, a student should have responsibility for, and control over, his own education, with provision for competent instructor supervision. Second, a student's education should be directed toward the acquisition of competencies rather than the accumulation of credits. (This approach would seem open to debate if the goals of the learner include the attainment of credit certification.) Harlacher's third tenet of nontraditional education is synonymous with other definitions in that it states that the traditional limits of schedules and location of services should not constrict student development. To be in consonance with this third tenet, educational organizations would need to provide flexible grouping and scheduling, independent study, off-campus delivery of educational offerings, etc.

Reference is made in both of the aforementioned definitions of nontraditional education to the need to minimize or eliminate, where possible, the impediments or barriers for adults wishing to access educational opportunities. Cross and Valley (1975:46) report the top five barriers from a list of twenty-four identified in a survey of adults (N of 3910) throughout the United States as follows:

1. cost, including books, learning materials, child care, transportation, and tuition (53%),
2. not enough time (46%),
3. don't want to go to school full time (35%),
4. home responsibilities (32%), and
5. job responsibilities (28%).

Concomitant with the more tangible barriers of formal education is the attention given to the various modes of instruction employed by educational institutions for adult part-time students, especially those who are returning to an educational activity after years of full-time employment. What seems significant are the arguments put forward that adults learn in a manner different from children (see Knowles, 1970 &

1978; Kidd, 1973; and Tough, 1978). Malcolm Knowles (1970:38-39) contrasts pedagogy, which is concerned with helping children learn, to andragogy, which is the art of helping adults learn. Knowles (1978:54) does not suggest there is a clear-cut differentiation between children and adults as learners, rather he differentiates between the assumptions about learners (1970:39):

> As a person matures, (1) his self-concept moves from one of being a dependent personality toward one of being a self-directing human being, (2) he accumulates a growing reservoir of experience that becomes an increasing resource for learning, (3) his readiness to learn becomes oriented increasingly to the developmental tasks of his social roles, and (4) his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject centeredness to one of problem centeredness.

In brief, Knowles views learning as a progression from pedagogy to andragogy as one moves from childhood to adulthood. The limitation of such a position is that chronological progression is not the only or the most consistent indicator of adulthood as it applies to learning. More properly, the need is to provide appropriate instruction based on the status of the learner with respect to such dimensions as current level of understanding of course content and previous work and educational experiences.

A definition of nontraditional instruction, that can be developed from the aforementioned, is one that places the learner's needs before the institution's needs in an attempt to break down the barriers to participation, such as scheduling and distance from a institution. An important consideration in removing barriers is that they are removed not to give the learner **special** consideration but rather to give the **appropriate** consideration.

SUMMARY

Several basic principles can be gleaned from the foregoing review to form the basis for a conceptual framework. Subsystems provide a way to describe the functioning of an organization, without being limited to the specific structure of a particular organization. The production subsystem impacts all subsystems within an organization. The production subsystem encompasses the tools, tasks, and people of an organization responsible for production. The production subsystem can be viewed as the functional component of the organization, and the technology of production as the methods used.

The technology of production of an organization refers to the comprehensive activities by which an organization produces goods or services. The technology of production enables an organization to meet its goals and objectives and thereby has a particular relationship to the organization's goals. The technology of production is not limited to equipment but includes the people and their knowledge and techniques. Traditionally used in the context of manufacturing, the concept of technology of production can be applied to education. In educational organizations, the technology of production can be equated to the provision of instructional services, encompassing instructors, students, learning resources, programs of study, evaluations, physical plants and equipment.

Research on manufacturing organizations indicates that a crucial relationship between technology and structure exists. If the structure does not adjust to meet the needs of the technology, the organization will be subjected to strain; that is, there needs to be a degree of fit between technology and structure.

Changes in the technology of production of an organization are related to the degree and duration of stimulus from other subsystems and the supra-system. In educational organizations, attempts at change and innovation in instruction have been slow and problematic. Reluctance to change instructional techniques has been related to organizational characteristics such as structure, support systems, and goals. This suggests that when nontraditional approaches to instruction are to be implemented, there is a need to examine the potential effects on structure, support systems, and goals.

Finally, nontraditional education and nontraditional instruction are described in the literature as an attitude that focuses on the learner's needs by removing traditional barriers to education, especially for the part-time adult learner. The needs of the learner are given priority over the needs of the institution in nontraditional instruction. These basic tenets of nontraditional instruction are supplemented with a philosophy of learning -- andragogy, which suggests that adults have different needs as learners than children.

CHAPTER 3

CONCEPTUAL FRAMEWORK

For this study, a conceptual framework was required that would provide a means to describe different approaches to instruction and the organizational characteristics of the sample colleges. Furthermore, the framework would act as a guide for the collection of data and the subsequent comparison and reporting of the findings. The significant findings from the review of related literature have been used to develop a conceptual framework that meets the criteria outlined above.

CONCEPTUALIZATION OF THE PROBLEM

Any college can be conceptualized in terms of four comprehensive aspects: (1) how it delivers instruction (instructional characteristics); (2) how it is organized in terms of lines of control, departmentalization, staffing patterns, etc. (structural characteristics); (3) how it conducts its affairs (functional characteristics); and (4) how it thinks; i.e., its ethos (psychological characteristics). All of these are interactive in ways not fully understood (see Figure 7).

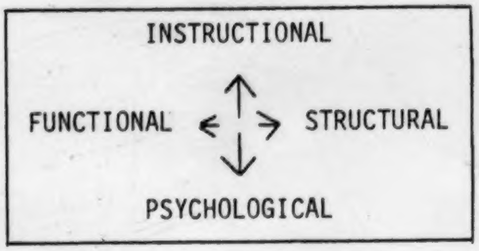

Figure 7

College Characteristics

In order to study the four college characteristics and how they relate and interact with one another, it was necessary to break each down into more definable focus areas or subcharacteristics. The literature reviewed in the previous chapter provides some guidance in this task (see Figure 8). The focus areas or subcharacteristics are present in most colleges and provide a means to distinguish instructional characteristics from organizational characteristics for the purposes of describing and comparing.

Instructional Characteristics

The definitions and usages of the term "instruction" in education implies (as noted in Chapter One) at least six interdependent components (focus areas) for instruction: (1) educational offerings;

College Characteristics	Focus Areas
INSTRUCTIONAL CHARACTERISTICS	1. educational offerings 2. admission criteria 3. access to courses 4. instructional techniques 5. role of students 6. role of faculty
ORGANIZATIONAL CHARACTERISTICS	
STRUCTURAL CHARACTERISTICS	1. profile of staff 2. formal structure 3. departmentalization 4. formalization of procedures 5. communication systems
FUNCTIONAL CHARACTERISTICS	1. production subsystem 2. supportive subsystem 3. adaptive subsystem 4. managerial subsystem 5. maintenance subsystem
PSYCHOLOGICAL CHARACTERISTICS ("Production Ethos")	1. technology of production 2. raw materials 3. product goals 4. system goals 5. task structure 6. value orientation

Figure 8

Focus Areas for the College Characteristics

(2) admission criteria; (3) access to courses; (4) instructional techniques; (5) role of students; and (6) role of faculty. The features and characteristics of each component can affect the others. For example, if the only opportunity to take a course is by attending classes from 9:00 a.m. to 12:00 noon daily for six weeks, then those with employment or family obligations that conflict with that course schedule may not have access to the course. Likewise, the role of the student and the instructor will be influenced if the course is offered using a computer-assisted instruction versus a teleconferencing technique.

Educational offerings represent what a college offers a community. These are normally described in terms of courses and programs and may be refined further into categories such as credit and noncredit, university transfer, and career and vocational programs. Related to educational offerings are admission criteria that can influence the range of academic ability of incoming students and the number of potential students for a course.

Access to courses refers to the ability of students to attend and/or participate in a course. Accessibility can go beyond the schedule or location of a course to include such factors as prior educational attainment, the costs of tuition, learning materials, transportation and child care. As mentioned in the literature (Cross and Valley, Gould and Cross), accessibility can be defined in terms of the barriers to participation in a course.

Instructional techniques refers to the methods and activities utilized to facilitate the instructional process. Examples of instructional techniques are lecturing, seminars, field trips, and computer-managed and computer-assisted instruction. The choice as to which instructional techniques are employed is dependent on such factors as the skill and preferences of the instructor, the ability and skills of the student, the type and variety of learning materials available and the objectives of the program.

The roles of the students and faculty are closely linked and dependent upon the other components. For example, students in a course scheduled to meet for 3 hours per week for 15 weeks may be required to attend 90% of the classes and to participate in class discussions as part of the course requirements. Given the same example, the instructor could be expected to attend all the classes and to initiate and lead the activities by preparing lecture notes and questions.

Together the six focus areas of instruction provide a method of describing and a format for comparing the instructional characteristics of colleges.

Organizational Characteristics

Organizational characteristics are comprised of three major categories of characteristics: structural, functional and psychological. What is meant by each of these categories is described in the following pages.

Structural characteristics. The structural characteristics are conceptualized for this study as consisting of five focus areas: profile of staff, formal structure, departmentalization, formalization of procedures and communication systems. The profile of staff refers to the educational and employment background of employees and provides information about one of the central characteristics of a college - its faculty. Formal structure is used to describe the formal lines of responsibility, decision making and communication. Departmentalization refers to the organization of programs of study and the services available to students and staff. Although there is some overlap between formal structure and departmentalization, the differences, as noted above, provide a means of comparing both the organizational and academic structures of the colleges. Formalization of procedures encompass the approaches to initiating action on items ranging from purchasing supplies to hiring staff. The remaining focus area is communication systems which refers to both internal and external channels and methods of communicating.

Functional characteristics. The examination and comparison of functional characteristics requires a description of the activities applicable to organizations that may have different structures. The five generic subsystems developed by Katz and Kahn (1966) were considered as appropriate labels because they are based on an activity or function and could, therefore, transcend the boundaries of departmentalization unique to a college. While colleges vary widely in psychological and structural characteristics, all display the five subsystems identified by Katz and Kahn; these are windows through which functional characteristics can be viewed.

The five generic subsystems - Production, Supportive, Adaptive, Managerial and Maintenance, can be considered as interdependent although each has a primary focus or activity. As mentioned in the review of related literature, changes in one subsystem can often be linked to subsequent changes in the other subsystems (Miles:1964). The internal and external linkages of the subsystems are illustrated in Figure 9. In this illustration, the subsystems are overlapping to reflect both their dependence on one another and their ability to influence one another. The adaptive and supportive subsystems are illustrated in Figure 9 as extending outside the normal boundary of an organization to interact with the environment.

The use of subsystems for describing how colleges function is not dependent on the equating of existing departments or positions to subsystems. However, commonly employed labels for college departments, positions and committees, can be associated with subsystems. Staff or even entire departments, can cross over into other subsystems while performing specific tasks of their office. For example, staff from the office of the registrar may cross over from the supportive subsystem to the maintenance subsystem when providing student records or grades to a member of faculty.

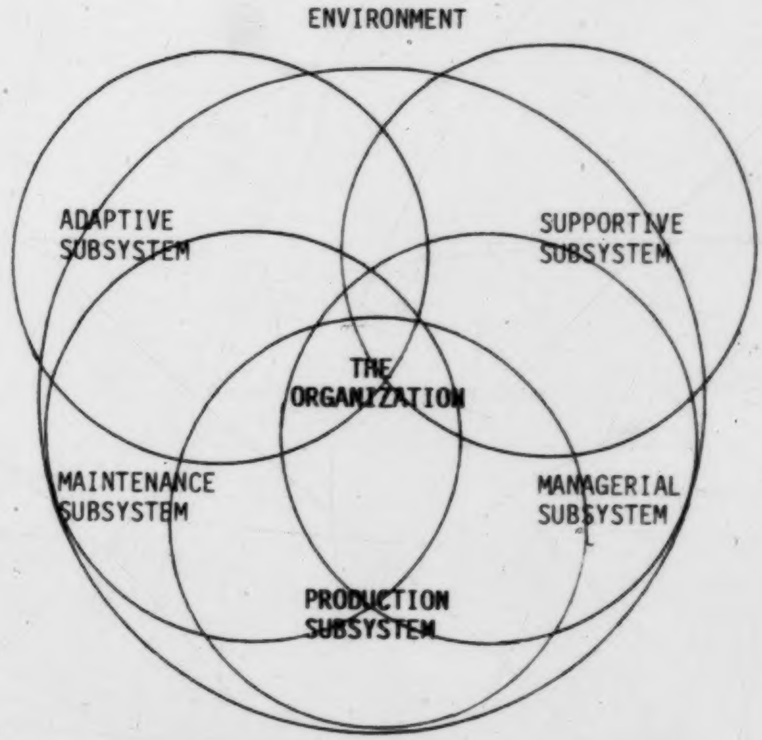
ENVIRONMENT
ADAPTIVE SUBSYSTEM
SUPPORTIVE SUBSYSTEM
THE ORGANIZATION
MAINTENANCE SUBSYSTEM
MANAGERIAL SUBSYSTEM
PRODUCTION SUBSYSTEM

Figure 9

Subsystem
Components of an Organization

The main functions associated with each subsystem are shown in Table 1. For this study, the clustering of functions into subsystems that can be compared between colleges was undertaken while recognizing that the production subsystem was of primary interest.

Psychological characteristics. In addition to describing the instructional, structural and functional characteristics of a college, it is valuable to understand the attitudes of staff about how the college functions. To obtain the attitudes of staff, a set of psychological characteristics was developed that would focus on areas related to the production techniques used by a college. The psychological characteristics, shown in Table 2, were drawn largely from the work of Perrow (1967, 1970 & 1979) to compare organizations in terms of their technology of production. For each of the focus areas identified, there are two subcharacteristics, as described in the following pages.

(i) Technology of Production. The technology of production refers to the kind of work performed and is comprised of two subcharacteristics: process exceptions and search techniques. Process exceptions refers to the certainty and standardization of the techniques used in production. The levels of process exceptions can vary between organizations from just a few to many exceptions. Search techniques are the activities engaged in when a problem arises in the technology of production employed. Search techniques can range from well conceptualized to poorly conceptualized.

Table 1

FUNCTIONS OF SUBSYSTEMS

Subsystem (Katz & Kahn)	Functional Characteristics
Production Subsystem	- responsible for transforming inputs (or resources) into outputs (or goods or services
Supportive Subsystem	- to acquire input material and to distribute output - develop and maintain good relationships with appropriate environmental factors
Adaptive Subsystem	- activities directed to future changes that may affect the organization
Managerial Subsystem	- controlling, coordinating and directing the activities of all subsystems within the organization
Maintenance Subsystem	- activities pertaining to the equipment used in the production subsystem

Table 2

PSYCHOLOGICAL CHARACTERISTICS

Focus Areas	Subcharacteristics
Technology of Production (the kind of work performed)	- Process Exceptions - Search Techniques
Raw Material (perception & treatment of raw material)	- Variability - Understanding
Product Goals (outputs)	- Quantity - Quality
System Goals (objectives & goals)	- Explicitness - Stability
Task Structure (decision making)	- Control - Coordination
Value Orientation (employee commitment)	- Benefit Identity - Goal Identity

Although "process exceptions" and "search conceptualization" can provide a means for conceptualizing perceptions of technology, other characteristics need to be considered to better understand different organizations. For example, it is naive to consider aerospace organizations and schools as being similar in technology without recognizing that one processes materials and the other people. Other psychological characteristics important to any classification of organization are raw materials, goals, task structure and value orientation, as shown in Table 2.

(ii) Raw Material. How raw materials are perceived by the staff of an organization can be described based on the variabilility and understanding of the material. Variability of raw material pertains to whether staff perceive the material to be a constant or a variable. The understanding staff have of raw material can range from well to poorly understood. For example, the staff in an educational organization could perceive all incoming students (raw material) as being constant although the perception need not be based on any factual sources of information. In the case of people-processing organizations, the raw material impacts on the organization by virtue of assumptions about the nature of the people being served rather than established characteristics. Yet, it is clear that the dominant perception of the client group is itself conditioned by the goals of the organization. This is the next characteristic that needs to be considered.

(iii) Goals. Goals are placed in two categories: product goals and system goals. Product goals are expressed as quantity and quality goals. In colleges, the quantity goals are normally indicated by the total number of full-time students or an equivalency (F.T.E.). Quality goals may be expressed as high academic standards, excellent employment records of graduates, small class size, or special academic qualifications of staff.

In this study, system goals are conceptualized in two dimensions: explicitness and stability. Explicitness refers to the specificity of goals. Goals may be perceived as well defined or loosely defined. Well defined goals are usually stated in short-term projections, whereas loosely-defined goals often are stated in long-term projections. Stability refers to the organization's attitudes towards risk. An organization with high stability favors activities which are tried and proven. An organization with low stability is more open to high-risk ventures.

(iv) Task Structure. Task structure is based on control and coordination dimensions. In this study, control is viewed as having two levels, namely: "discretion" and "direction"; the former indicating a situation where decision-making power is decentralized, and the latter where decisions are centralized within the organization.

The coordination dimension pertains to the interaction of tasks within groups which can be achieved either through planning or through feedback, the former being active and the latter reactive.

(v) Value Orientation. The value orientation characteristic describes the priorities of the organization's staff. There are two dimensions of this variable: goal identity and benefit identity. Where a high-goal identity prevails, the staff identify with the objectives of the organization. Where a high-benefit identity prevails, the organization is viewed by the staff as a means to secure their individual benefits.

The six characteristics and twelve subcharacteristics, as derived from Perrow, represent the components of the "production ethos" (Table 3), or set of psychological (attitudinal) characteristics associated with instruction. The production ethos provides a means to obtain and compare the attitudes of staff towards various organizational practises related to the production of goods and services. These psychological characteristics and subcharacteristics (production ethos) were used to develop the interview and questionnaire items.

SUMMARY

The framework for this study conceptualizes the characteristics of a college into four categories: instructional, structural, functional, and psychological. Within each of the four categories are focus areas or subcharacteristics that are "windows" through which to

Table 3

PRODUCTION ETHOS
Summary of Psychological Characteristics

CHARACTERISTICS	SUBCHARACTERISTICS	LEVELS
Technology of Production	1. Process Exceptions	1) Few exceptions 2) Many exceptions
	2. Search Techniques	1) Well conceptualized 2) Poorly conceptualized
Raw Materials	3. Variability	1) Constant 2) Variable
	4. Understanding	1) Well understood 2) Poorly understood
Product Goals	5. Quantity	1) High quantity 2) Moderate quantity
	6. Quality	1) Moderate quality 2) High quality
System Goals	7. Explicitness	1) Well defined 2) Loosely defined
	8. Stability	1) Low risks 2) High risks
Task Structure	9. Control	1) Direction 2) Discretion
	10. Coordination	1) Planning 2) Feedback
Value Orientation	11. Benefit Identity	1) High 2) Moderate
	12. Goal Identity	1) Moderate 2) High

examine the internal operation of a college. In addition, the conceptual framework provides a means to describe and compare the colleges and to explore relationships between the characteristics.

CHAPTER FOUR

RESEARCH METHODOLOGY

This chapter contains the requirements of the study, details of the research methodology, and the techniques of data collection that were used.

REQUIREMENTS OF THE STUDY

Considerations in determining the research methodology for the study included the exploratory and descriptive nature of the study, the use of a newly developed and untried conceptual framework, and the sample size. The primary research activities of the study were to describe two colleges, each espousing a different approach to instruction, and then to compare the colleges' organizational characteristics related to instruction. The purpose of the study was to identify and compare the similarities and differences in these organizational characteristics. Therefore, a research methodology was required that would permit the development of a detailed description of each college and that would enable the subsequent comparison of the colleges. With the requirement to develop a detailed description, the sample size would need to be small which would minimize the applicability of findings from this study to other colleges.

The conceptual framework was to be used as a guide in the identification of questions and the reporting of findings and, therefore, the approach to research would need to be compatible with the framework. In addition, a data collection technique was required that would obtain information on instructional and organizational characteristics. Perceptions of these characteristics would need to be sought from faculty, staff and administrators.

In summary, a research methodology was required that would permit a thorough description of each college to be created and to enable a comparison of the colleges based on the characteristics identified in the conceptual framework.

NATURALISTIC INQUIRY

Many of the characteristics of a naturalistic approach to inquiry were found to be compatible with the research requirements of this study. Naturalistic inquiry is defined by Wolf and Tymitz (1976-1977:6) as an approach directed at understanding "activities, social realities, and human perceptions ... by presenting slice-of-life episodes documented through natural language and representing as closely as possible how people feel, what they know, and what their concerns, beliefs, perceptions, and understandings are...." As described by Guba and Lincoln (1981), a naturalistic approach is not a method for research but a paradigm for inquiry that should be selected for use based on the fit between the situation under study and the characteristics of a naturalistic approach. The fit between the characteristics of a naturalistic approach and this study are numerous. This relationship is best shown by outlining the salient characteristics of a naturalistic approach with the reseach requirements of this study. However, as stressed by Guba and Lincoln, pure uses of either naturalistic or rationalistic inquiry may be neither possible nor desirable. For this study, the approach taken is closer to the naturalistic end of a continuum, although some features of the research design reflect a rationalistic approach.

Characteristics of Naturalistic Inquiry

The characteristics of naturalistic inquiry are reflected in several assumptions about reality and research. A basic assumption is the acknowledgement of multiple realities that have been equated to the layers of an onion (Guba & Lincoln:1981). Although each layer is nestled within one entity, each layer provides a different perspective on reality. An additional assumption about reality identified by Guba and Lincoln (1981:56) is that "virtually all the phenomena with which the social-behavorial inquirer deals exist in the minds of people - what they take to be problems, their perceptions of one another and of the meaning of their environments." A significant aspect of this study was to collect, from the staff of the colleges, their perceptions about the environment within which they work. In addition, Guba and Lincoln (1981:71) point out the expansionist stance taken in naturalistic inquiry that "will lead to the description and understanding of phenomena as wholes or at least in ways that reflect their complexity."

Another characteristic of a naturalistic approach is the utilization of "grounded theory" as opposed to "prior theory" common to rationalistic approaches. Grounded theory is defined by Glaser and Strauss (1967) as the generation of theory from observed data. Prior theory is considered to be theory in place that is verified or generalized through research. This characteristic is further ensconced by the tendency for naturalistic inquiry to focus on discovery rather than the verification of theory. The apparent lack of previous research in the specific subject area of this study minimizes the use of prior theory and provides the opportunity for this study to develop the groundwork for the generation of theory. Furthermore, as is the case with this study, naturalistic inquiry tends to focus as much on differences as it does on similarities.

DATA COLLECTION

The methodologies of a naturalistic inquiry include favouring field settings to a laboratory setting, interaction between the inquirer and the subject and the use of several techniques for data collection.

Data collection was accomplished using three methods: (1) a review of relevant college documents, (2) a questionnaire, and (3) interviews. Although the technique of using three (or more) methods for data collection is normally called triangulation, the tripartite approach is not a pure example of triangulation because each of the techniques does not focus on precisely the same dimension of the research problem. However, a basic tenet of triangulation: "to capture a more complete, holistic, and contextual portrayal of the units under study (Jick,1979:603)" is the rationale for using three data collection techniques.

Review of College Documents

Guba and Lincoln (1981:232) have identified the following six reasons for using documents for naturalistic inquiry, although the principles would appear to be applicable to other methods of inquiry: (1) documents are a stable, rich and rewarding source of information, (2) constitutes a defense in a challenge to a report, (3) a natural source of contextual information, (4) low cost source of information and readily available, (5) they are nonreactive, and (6) lends to the contextual richness of descriptions.

Data gathering commenced with the review of relevant college documents. This review provided contextual information about the colleges and revealed their stated operational guidelines and procedures. Particular attention was given to the currency and source of the documents to ensure that they were official documents of the respective colleges. The documents (Appendix A) were selected based on their relevance to the instructional process within each college and on their content as it related to one of the five subsystems. The documents reviewed included: faculty employment policies and collective agreements, student registration and selection procedures, organizational charts, policy manuals, articles about the colleges, academic policies, course and program offerings, and the five year plans of each college.

The relevant findings from the documents were catalogued using the subsystems component of the conceptual framework as outlined in Chapter Three. For example, material pertaining to faculty contracts was categorized under the maintenance subsystem. The subsystems for each college were reported separately then compared for similarities and differences.

Questionnaire

The second method of data gathering was a questionnaire (Appendix B). Questions for the questionnaire were drawn from the conceptual framework which identifies the characteristics of routine and nonroutine organizations based on their technology of production. The relationship between the questions and the organizational characteristics, as identified in the conceptual framework, are shown in Appendix C. The purpose of the questionnaire was twofold: (1) to obtain profile information about staff, and (2) to obtain information about the psychological characteristics of the colleges.

Statements for the questionnaire were drawn from the production ethos presented in Chapter Three. Respondents were requested to indicate their level of agreement/disagreement on statements about various processes and the goals and mission of the college. A five point scale was used with choices that ranged from strongly disagree, disagree, undecided, agree, strongly agree. In addition, a personal data section was included containing six questions pertaining to information about the respondent such as work experience, level of education and position.

A pilot test of the questionnaire was conducted at the researcher's college to check for comprehension of statements and questionnaire design. Feedback from the pilot test resulted in several minor changes being made to some of the statements and design, and the addition of a covering letter outlining the purpose of the study.

Distribution of the questionnaires was accomplished with the support of the president of each college and was carried out with the assistance of his staff. A questionnaire was sent to each full-time instructor, to randomly selected part-time instructors, to support staff, and incumbents of selected administrative positions. Recipients of the questionnaire were requested to respond within two weeks. A follow-up reminder was given at the end of the initial two-week time period.

Three basic statistical procedures were conducted on the data obtained from the questionnaires - frequencies and cross tabulations, t-tests and factor analysis. The results of these tests are reported in Chapter Eight.

Interviews

The third technique used for data gathering to complete the tripartite approach to research was the interviewing of staff from each college. The interviews were intended to clarify information obtained from the review of college documents and to provide the opportunity to probe more deeply into the responses from the questionnaires. In addition, the interviews provided an opportunity for staff to discuss aspects of the operational characteristics of their college that were not addressed in documents and the questionnaire.

The value of interviews for this study was based on the assumptions that there would be a pluralistic set of values within each college that may be at variance with stated values and that face-to-face interaction with respondents could yield data not requested in the questionnaire and yet germane to the study. These assumptions about the benefits of interviewing are reflected in Patton's (1980) work on qualitative evaluation methods. Patton (1980:196) contends that we interview people when we cannot directly observe the needed information such as feelings, thoughts and intentions.

Three interviewing techniques are indentified by Patton (1980:197) as being applicable to qualitative research, namely: (1) the informal conversational interview; (2) the general interview guide approach; and (3) the standardized open-ended interview. In brief, Patton (1980:205) summarizes the principle for the general interview guide approach as providing a framework "within which respondents can express their own understandings in their terms."

The general interview guide approach contained the features that would be appropriate for the needs of this study. Features include a list of questions generated prior to the interviews to ensure that the same basic material is covered in each interview; however, it retains the freedom to explore areas of particular interest to either the interviewer or interviewee. The general nature of the questions also helps to make interviewing diverse groups more systematic and comprehensive.

The interviews were conducted over a two-week period of time that was split between the two colleges. A semistructured interview technique employing open-ended questions was utilized. General guiding questions were developed following a preliminary review of data collected from the documents and the questionnaire. The interviews began by providing a brief overview of the purpose of the research. Respondents were informed that their names would not be used and that discretion would be taken when identifying the position of the respondent, if the issue or comment was sensitive. The first question asked the interviewee to describe his role within the college and was normally followed by a series of questions, based on the initial response, that probed deeper into how tasks were actually carried out. Additional questions were asked that keyed on the subsystems with particular attention given to how the interviewee utilized the services of these subsystems.

A total of 26 staff were interviewed; sixteen at Malaspina and ten at North Island. Incumbents of several positions within each college were selected to be interviewed. For positions with more than one staff member (e.g. faculty), the interviewees were randomly selected. The positions represented a cross section of the college's staffing ranging from president to lab. assistant.

Interviews were scheduled in one-hour time blocks except for the interviews with the president of each college which were scheduled for two hours. The interviews were conducted in the interviewee's office when possible, however, due to staff schedules, several of the Malaspina interviews were conducted in one centrally located office. In addition to the scheduled interviews, time was made available at the end of each day for members of staff who were not selected for an interview but who wished to contribute information to the study. No staff member from either college took advantage of this open time, although additional information was obtained through informal contacts made in staff rooms and cafeterias.

Note taking was the primary method of recording responses although the interviews with the presidents were audio tape recorded. The notes were reviewed after each interview and transcribed as soon as possible (normally at the end of each day) to aid the accuracy in reporting the responses.

SUMMARY

The study is a comparison of two colleges. Three techniques for data collection were used: review of relevant college documents, questionnaire and interviews. The conceptual framework reported in Chapter Three was used to guide the data collection and subsequent report of the findings (Chapters Five through Eight). Figure 10 indicates the primary data sources used to describe the college characteristics and focus areas of the conceptual framework.

College Characteristics	**Focus Areas**
INSTRUCTIONAL CHARACTERISTICS **Primary Data Sources - DOCUMENTS and INTERVIEWS**	1. educational offerings 2. admission criteria 3. access to courses 4. instructional techniques 5. role of students 6. role of faculty
ORGANIZATIONAL CHARACTERISTICS	
STRUCTURAL CHARACTERISTICS **Primary Data Sources - DOCUMENTS and QUESTIONNAIRES**	1. profile of staff 2. formal structure 3. departmentalization 4. formalization of procedures 5. communication systems
FUNCTIONAL CHARACTERISTICS **Primary Data Sources - DOCUMENTS and INTERVIEWS**	1. production subsystem 2. supportive subsystem 3. adaptive subsystem 4. managerial subsystem 5. maintenance subsystem
PSYCHOLOGICAL CHARACTERISTICS ("Production Ethos") **Primary Data Sources - QUESTIONNAIRES**	1. technology of production 2. raw materials 3. product goals 4. system goals 5. task structure 6. value orientation

Figure 10

Primary Data Sources for the

College Characteristics

CHAPTER FIVE

INSTRUCTIONAL CHARACTERISTICS

This chapter contains a description and comparison of the instructional characteristics of each college. Instructional characteristics are activities and processes directly related to instruction such as teaching techniques and course materials. The chapter is organized into three sections. The first is an overview of the British Columbia college system that provides the contextual information about the province within which the sample colleges function. Next, the instructional characteristics of each College are presented under the six focus areas: (1) educational offerings; (2) admission criteria; (3) access to courses; (4) instructional techniques; (5) role of students; and (6) role of faculty. The last section contains a comparison of the instructional characteristics between the sample colleges.

The primary sources of data for this chapter were college documents and interviews with the staff of the colleges. Most of the documents reviewed (Appendix A) contain information pertaining to more than one of the focus areas for instruction. For example, the college calendars included a catalogue of course offerings, admission criteria, and the schedule and location of program offerings. The interviews provided an opportunity to clarify document information and to acquire supplemental data. Together, the documents and interviews provided a rich source of detailed information about the instructional characteristics of the colleges.

COLLEGE SYSTEM IN BRITISH COLUMBIA

A college is an open system, interacting with its environment. Although the primary environment for a college is the region or communities served, a college is normally part of a larger system. The larger system, or supra-system, for most Canadian colleges, is a provincial system comprised of a number of sister colleges. Provincial governments provide the funding, and establish fiscal and governance policies.

The two colleges in this study are part of the province of British Columbia college system that consists of 15 colleges established between 1965 and 1981. The legislation enabling the establishment of the colleges was passed in 1963 as Section 251 of the Public Schools Act. The legislation permitted the establishment of comprehensive community colleges that would provide courses of study "in the first and second years of university work, courses of other post-secondary instruction and training and other adult courses of instruction and training ..." (cited in B.C.A.C., 1983:5). Emphasis was also given to the regional aspects of colleges with local taxpayers sharing in the cost and having the opportunity for input as to what kinds of programs would be offered.

In 1965, the academic board of higher education in British Columbia reported two broad purposes for colleges. The provision throughout British Columbia of "the opportunity for post-secondary education"; and the provision of "a variety of educational opportunities for students of different abilities, talents and interests" (cited in B.C.A.C., 1983:8-9).

In 1971, legislation was put into effect that directed the combining of provincially-operated vocational schools with regional colleges. This move reinforced the three guiding principles for the establishment of colleges: comprehensiveness, access and flexibility.

The task force on community colleges was established by the provincial government in 1973 and mandated to hold public hearings on the role of community colleges. Two key recommendations of the task force are contained in the following excerpts from their final report (cited in B.C.A.C., 1983:12):

> (1) Community Colleges should attempt to decentralize educational resources so that learning opportunities may be more equally shared by all residents of British Columbia.
>
> (2) A high priority in future college development should be a concern for meeting the educational needs of those who are geographically, socio-economically, or physically disadvantaged.

The underpinnings of these statements can be traced to the government's perspective that people working in small, isolated communities make significant contributions to the economy of the province through fishing, logging and mining and should not be cut off from post-secondary educational opportunities because of the remoteness of their community.

The British Columbia College and Institute Act became law in 1977. This new act was created by a recently elected government with a different ideology than the previous government and contained a shift in emphasis from the comprehensive role of colleges espoused by the previous provincial government. The act carved out a role for colleges to focus on providing "marketable skills" to the young people of the province. However, the wording of the act implied that the province's universities would continue to remain society's preferred choice when it came to the allocation of provincial resources. The new act also created three councils "to advise the Minister on expenditure priorities and to coordinate planning and programming" (cited in B.C.A.C., 1983:16). These councils were viewed by colleges as centralizing the policy making and planning of colleges with the Ministry of Education rather than with the college boards.

In 1982, the provincial government's priorities for social spending placed health care first followed by public school education, and relegated postsecondary education to third. These priorities,when tempered with a significant downturn in the economy and high unemployment, have resulted in a zero lift (no increase) to college base budgets during the past two years and that practise is expected to continue for the next five years. Each college has been required to submit a five-year plan, known provincially as the integrated five year plans. The planning document is intended to provide the government with the action that will be taken by the colleges to operate within the projected budget constraints.

The economic environment within which the British Columbia colleges are operating has been, and is projected to continue to be, significantly influenced by fiscal restraint and slow economic growth for at least the next few years. This rather bleak fiscal forecast is occurring at a time when there is increasing demand for services from the communities served by the colleges. In addition, there is more direction from the Ministry of Education in the planning and governance of colleges. In brief, the poor economic outlook for the province during the next five years, when combined with government policies designed to reduce deficits and to operate within current resources, has created a very competitive situation among colleges seeking funding from a decreasing resource base.

MALASPINA COLLEGE

Introduction

Established in 1969, Malaspina College is described in its calendar as Vancouver Island's first regional community college, although it was not until 1981 that the college board actually adopted a statement of purpose designating Malaspina as a regional community college. In 1972, the Nanaimo Vocational School, which is now the vocational division of the college, was amalgamated with the college.

Malaspina College is located on Vancouver Island with a main campus in the city of Nanaimo and satellite campuses in Duncan, Parksville and Powell River. The college provides services to a mandated geographical area of approximately 80,000 square kilometers that encompasses five school districts and a total population base of 162,000. The college serves over 10,000 students annually with a full-time staff of 219, of which 167 have instructional duties.

The major industries of the region are forestry and tourism. Regional population growth is modest at 1.6 percent per annum with little change in the number of 18 to 24 year olds, however, there has been a significant population increase in the over 25 age group. Unemployment is above 10 percent with youth unemployment above 20 percent. The largest centre is Nanaimo with a population of 60,000 and three other centers with populations of approximately 10,000 each. The balance of the region's population is located in numerous small fishing or logging communities that are dotted throughout the region.

Educational Offerings

Malaspina College's educational offerings can be classified into five general categories: university transfer, career/technical, vocational, upgrading/basic adult education and noncredit community-based activities. Each of these categories may differ from one another on several dimensions such as: tuition fee, transferability, grading system, credit value, and credential awarded.

The university transfer courses are offered to provide the learner with the opportunity to complete the first two years of university study within the college region before transferring to a university. The career/technical programs provide certificate (one year) and diploma (two years) programs in various career areas, such as early childhood education, agriculture and fisheries. Vocational training programs are offered in many of the trade areas including welding, mechanics and heavy equipment operators. Many of the provincial TRAC[1] programs for apprenticeship are available at Malaspina. Vocational programs of study are from three weeks to one year in duration. Upgrading and basic adult education offerings are directed primarily at those members of the community who require some skill development in fundamental areas such as English and mathematics. The offerings are of short duration (eg. six weeks) and permit the participants to complete high school certification or acquire entering level standards to pursue further education. The noncredit community-based offerings encompass a cornucopia of general interest courses ranging from how to grow roses to wine making.

Admission Criteria

Malaspina has developed an acceptance procedure that includes criteria for priorizing applicants and establishing a waiting list of applicants. Priority is given to applicants who are Canadian citizens, and landed immigrants who have resided in B.C. for one year prior to applying. The second priority is given to out-of-province Canadian citizens and landed immigrants. A "wait list" is created from the date of application to handle qualified applicants who are not admitted due to enrollment limits. One additional criterion that can affect applicants is that "priority will be given to full-time students" (M.C., 1984-a:8). Although regulations and procedures regarding student admissions are contained in various college publications, there is no specific college policy on the topic in the policy manual.

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[1] TRAC is a Training Access Program using self-pacing course modules developed by British Columbia to standardize pre-apprenticeship training in the colleges.

Acceptance into university transfer, career/technical programs is based on academic ability, normally determined by the grades obtained at high school and the score on a skills appraisal test. Students scoring low on the skills appraisal can be required to complete upgrading courses before proceeding into a program. A mature student status is available to those students 19 years of age or older who lack a secondary-school diploma. Admission is limited to Canadian citizens or to persons with landed immigrant status. Foreign students are not eligible for admission to the colleges of British Columbia unless they are sponsored either by an international scholarship or by an intergovernment agreement.

Access to Courses

The majority of educational offerings are located on the main campus (Nanaimo) with a limited range of educational offerings available at the three satellite campuses. The exception to the

the limited range of offerings is the noncredit community-based activities which are available in abundance at all campuses. The academic schedule is from September to April encompassing two semesters (fall and spring). The university transfer and career/vocational programs operate in the fall and spring semesters. TRAC offerings have a continuous intake and are offered year-round, as are many of the upgrading and noncredit community education courses.

Under the board section of the policy manual is a policy - Malaspina College regional services #1000.0127, that addresses program balance, support services and facilities. The policy contains statements that include the need to provide programming at regional campuses that meets the needs of the communities served and that such support services as registration, counselling and learning resource centre services be available at each regional campus. The importance given to the regional campus concept is captured in the policy statement (M.C., 1982-b:1000.0127):

> Maintenance of a visible physical facility is an essential part of providing access to post-secondary education.

There are at least four exceptions to the campus classroom or lab/shop location for course delivery: (i) municipal government administration certificate which is offered in a correspondence format, (ii) "fast-track" which was developed to provide quick response to short-term training needs identified by the community, (iii) some use of the Knowledge Network which offers video tape courses delivered via satellite and supplemented with print and other supportive material, and (iv) limited use of the Open Learning Institute which provides credit courses via correspondence. However, student enrollment in these four areas is modest.

Fast-track staff work in close cooperation with business and industry to identify and assess training needs and to design industry-specific courses to meet those needs. Fast-track draws from the expertise and resources of the college to package the appropriate training activities and to deliver them when and where it is best for the client. To date, programs have been offered as far away as Texas, and range in duration from as brief a period of time as a half day to several months. Complementing the fast-track linkages with business and industry is a proposal for a development park that, when completed, would add a unique dimension to providing access to the college by the business community. For example, the development park would provide physical space and function as a resource centre to businesses to conduct research and development of new products and services.

Instructional Techniques

The primary instructional technique used in the academic and career division is the lecture, occasionally supplemented with audio-visual materials and the use of seminars and labs. Course content is delivered by an instructor in a classroom or laboratory during classes scheduled over a semester (normally fifteen weeks).

The vocational division instructors also utilize the lecture technique in classrooms, labs. and shops. However, some of the vocational courses have been designed into modules with a mastery or competency-based approach for completion. For example, the welding program consists of prescribed learning modules with a sequential three step (A, B and C) course structure. Students must master "A" before proceeding to "B" and so on. The preapprenticeship programs are offered via "Training Access" (TRAC) developed by British Columbia to standardize the curriculum for apprenticeship programs across the province. There are "independent" learning packages that provide content on the subject matter. After completing a package, the student writes a quiz. If successful in the quiz, the student must then demonstrate competence in the skill to a shop instructor. The role of the instructor in the TRAC offerings is as a tutor and shop supervisor. Instructors are not required to teach the basic skills, but rather are required to provide assistance in refining the skills of the student and to test the students. The TRAC system was not developed at Malaspina and the same TRAC programs are available in the other provincial colleges and vocational institutions.

Role of Students

A student role is not defined by the college, although most of the course outlines reviewed delineated the requirements for a student to successfully complete the course. Typical of course requirements are regular attendance and participation at classes for which a percentage of the final grade would be given.

Role of Faculty

The typical workload for a faculty member in the academic division is to teach four courses, normally two courses from September to December and two from January to April. Faculty that were interviewed were asked to comment on the amount of time that they would spend per week on college duties and the responses ranged from a low of 20 hours to a high of 60 hours. Several faculty indicated that during their first few years with the college, they committed up to 50 hours per week to college duties but their time commitment and enthusiasm tended to wane over time and they were now spending around 25 hours. The exceptions to the 25 hours per week occurred during mid-term and final exams or project times when their time commitment was increased considerably.

Instructors in the vocational division are assigned an instructional workload of 28 hours per week that is equated to 5.6 hours per day for a five-day workweek. In some of the program areas, an instructor's 28 hour workload would be comprised of 5 hours of lecture and 23 hours of shop supervision. For example, the automotive shops are open from 7:30 a.m. to 4:30 p.m. and are required to be supervised throughout the day to provide student access to them for both scheduled classes and to practise.

In the dental assistant program, instructional activities are scheduled between 8:30 a.m. and 3:15 p.m., five days a week, spread over a ten-month time frame. The students are scheduled first into classrooms for theory, then into a lab. for practise and finally back into a classroom. Instructors in the program are normally available between 8:00 a.m. and 4:30 p.m. each day. A comment by one chief instructor was that some staff "work to rule" which meant they worked only the minimum required hours. Alternatively, another chief instructor commented on how many staff tended to work far beyond the required hours, which was the more common practise, based on the interviews.

Vocational division instructors were asked to comment on the difference in assigned workload between their division (at 28 hours per week) and the academic/technical division faculty (at 15 hours per week). Their responses focused on the lack of free time for the preparation of classes and for the marking of student assignments rather than on the difference in assigned workload.

There are at least two other aspects of the vocational division that require a unique role for instructors - TRAC and fast-track training. The TRAC program is a provincially-developed series of courses that provide preapprenticeship and apprenticeship programs in a student-centered or independent-delivery format. The TRAC packages provide the theory and the testing banks to the students and the instructor is required to give the student the practical and lab. components of the program.

Working with the TRAC approach has been a difficult adjustment for some vocational instructors. During the interviewing, it became apparent that, to quote one instructor, "TRAC is not really on track." Several instructors pointed out that they had received no training in how to implement and work within the TRAC system. As a result, instructors indicated their frustration in not knowing how to utilize the materials to help students. In the words of one instructor, "the switch from teacher to consultant has not been easy." Furthermore, to compound the problems of TRAC, students take courses in groups rather than taking a course on an individual basis. The group or class approach is used because, according to one department head, there is not adequate money to operate the courses on an individual basis. Unfortunately, the group approach minimizes the potential for students to commence a program at times appropriate to their needs and also makes it difficult for students to progress at their individual pace.

Some additional problems related to TRAC raised by staff interviewed included the importance of developing time-management skills within the students. Several instructors felt that TRAC did not instill in students the personal employee traits that employers want, such as punctuality, dependability and good human-relations skills. They felt the previous instructor-controlled approach was more successful at developing many of the personal traits perceived as vital to successful employment after graduation. A more fundamental academic problem is assisting students with reading difficulties through a TRAC course, given that most of the TRAC material is presented in written form.

Fast-Track Training (not related to TRAC) is another educational activity that has unique instructional characteristics. Fast-track was established by the college to provide a means by which

Malaspina responds quickly to requests from business and industry for training programs, particularly for on-the-job training. The fast-track offices are located in the vocational division and the majority of the offerings relate to vocational programming. Instructional staff interviewed felt this was a valuable activity, with several instructors indicating that they would like to become more involved, however, their teaching schedules limited their availability to participate. In fact, one of the more apparent benefits mentioned by several of the instructional staff is that fast-track has provided new opportunities for faculty to work more directly with business and industry. They felt this contact with industry helped them keep up-to-date with the needs of their profession. One department head indicated that his staff were so supportive of the fast-track concept that they had established a mini fast-track operation of their own with local automobile and marine dealers to offer courses to the dealers' staff on changes to equipment and servicing techniques.

In summary, the lecture technique, in scheduled classes, is the primary instructional technique used by faculty at Malaspina. However, there are a few exceptions such as the TRAC program, which faculty are not comfortable in using, and a biology course that utilizes audio tapes as the primary source for course content. There is a widely held perception that considerable latitude rests with the instructional staff in interpreting the appropriate college policy for instructional tasks and issues.

NORTH ISLAND COLLEGE

Introduction

Established in 1975, North Island College serves a region of 80,000 square kilometers covering the northern two-thirds of Vancouver Island and the neighbouring coastal mainland. The region is dotted with many small communities, some of which are accessible only by boat or float plane. The ruggedness of the terrain is illustrated in a topographical map of the college district that shows an elevation that undulates from sea level to over 4,000 metres throughout the length and breadth of the district. The population of the region is approximately 108,000 resulting in a low-population density of 1.35 persons per square kilometer. North Island serves twenty-eight communities; however, 75 percent of the region's population is located in three main population centers, with the largest having a population of 35,000. The major industries of the region are forestry, fishing, mining, and tourism. All of these industries have suffered high unemployment, especially forestry, which reached 38 percent unemployment in 1983.

North Island College has a full-time staff of 69, of which 29 are classified as tutor/instructors, and a part-time staff of approximately 100 that is increased or decreased depending on the demand for courses. A head count of students, reported by the college for 1982, was 4,746 students. The head count is based on an unduplicated count of individuals who register in one or more courses.

Initially, the smallest college in the British Columbia system, North Island College now has the fourth largest part-time student enrollment and the highest participation rate from a regional population - "twenty-seven percent of the adult population now avail themselves of College services" (N.I.C., 1983-a:39). In college calendars and promotional material, the importance of participation by the residents of the region and reaching out to the community is captured in a college slogan - "putting the community in the community college by putting the college in the community" (N.I.C., 1981:3). More than one staff member stated that the college "was in the community development business."

Educational Offerings

North Island College can be described as a comprehensive community college that provides a full range of offerings from general interest to basic adult learning to high school equivalency to career and vocational programs to university transfer. A total of 262 courses were offered in 1982 of which 114 were university transfer. General interest courses are normally offered as a result of requests from the community and are designed and delivered to meet the specific needs of each request. Basic adult learning and high school equivalency are provided in four levels: basic training for skills development (B.T.S.D.), general education development test (G.E.D.), college preparation and grade 12 completion. The career programs are limited to business management, small business management, business office training, early childhood education and maintaining a special registry for the accreditation of social workers. Vocational offerings include some components of the TRAC program, forestry, and aquaculture.

Admission Criteria

The admission and registration of students is available on a decentralized basis either by in-person registration at any of the college centers or by mail. Admission to the college is based on two criteria: "(1) Canadian citizen or landed immigrant status and (2) 18 years or older OR high school graduate" (N.I.C., 1984-a:25). There is also provision to allow individuals and their dependents who are participating in government exchange programs, including military personnel from foreign countries, to register in courses. Provision for special transfer and admission is also available to Canadian military personnel stationed at the nearby Canadian Forces Base in Comox. For example, North Island College has established transfer arrangements with the University of Manitoba - Canadian forces program. This arrangement assists military personnel wanting to complete a university degree on a part-time basis while contending with the Canadian Armed Force's practise of transferring personnel to another military base every three to five years.

Access to Courses

The access to course offerings is what distinguishes North Island College from most other colleges. First, the college does not have any campuses in the traditional sense. The college has 15 community learning centers and three mobile learning centers. Prior to the budget cuts in 1984, there were two additional mobile learning centers - one of which was a 165 foot ship. Second, most of the courses have a continuous intake enabling students to start courses at anytime during the year. Third, the courses are available in an open-learning format enabling students to create their own schedule to conform with family and employment commitments. Fourth, faculty are available to tutor students from 8:00 a.m. to 9:00 p.m. on weekdays.

The learning centers are intended to place learning resources in as many communities of the college district as physically possible. The district is divided into seven regions, with each region having at least one learning centre and some regions with as many as three centers. When a permanent site is not feasible, one of the college's mobile learning units will make regular weekly visits. Each static learning centre, as opposed to a mobile learning centre, is equipped with course materials, a learning resource centre, audio-visual equipment, computers, tutors and is open for a minimum of sixty-seven hours a week. The staffing complement varies dependent on the size of the community served. Seven of the centers have full-time instructional staff, with part-time staff used at the others. The largest centre has a staff of thirteen, comprised of nine tutor/instructors, three centre support assistants, and a centre director.

Residents of a region may use the resources of a centre whether or not they are a registered student. For example, video tape used in an early childhood course may be viewed by a parent looking for more information on child development, or the television viewing area could be used to watch a Knowledge Network broadcast.

The design of the learning centers includes individual offices for tutors, an open area with study carrels, classroom(s), a quiet study area, and dependent upon the availability of space, there may be dedicated areas for testing, computers, and video viewing. The tutor offices in one centre have glass walls and wide sliding patio-type doors intended to establish an open, informal environment. The learning centers are located in high-traffic areas in the communities and include parking facilities for students and staff. The use of leased facilities allows flexibility in responding to changes in demand.

The three mobile learning units operate in three of the college's seven regions. Two of these mobile units are used for day trips to small, often remote, communities or logging camps. The third mobile unit has the features of a fully-equipped motor home enabling the tutor to be out on the road for intervals of up to one week. Each mobile unit is scheduled to visit several communities, usually weekly. The unit is often parked on the main street of the town or in a school parking lot. The mobile centers are as equipped with learning resources, media equipment and course materials as space will permit. The tutor assists students in preparing an assigment, studying for an exam, recommending resource material and reviewing the evaluation of an assignment. Normally, appointments are made to ensure that registered students get an opportunity to meet with the tutor.

The interior design of the mobile units is such that two to three students can work at a study station with the tutor moving from one to the other. The media materials are viewed using headsets to minimize the disruption to others in the rather tight quarters of a mobile centre. The viewing of video tapes and other materials, requiring special equipment that the individual student may not have, is an important service provided by the mobile units.

Instructional Techniques

The primary instructional technique used at North Island is described in college documents (N.I.C., 1984-a:10) as an "open learning system." An open learning system has such features as open access to and open exit from courses; that is, the learner can start the course at any time throughout the year and progresses through the course at his or her personal rate. The actual instructional techniques of open learning used at North Island include packaged and individualized learning materials, small group tutorials, pace groups, educational television, limited scheduled classroom instruction, self-paced course materials and the tutoring of students. Course content is packaged into a variety of media formats, complete with a recommended schedule for self-pacing through the course. Faculty perform tutorial functions such as assisting the learner with problems, and managing the learner's progress through a course.

There are two categories of credit courses at North Island College: open and scheduled courses. Open courses are intended to remove some of the barriers to post-secondary education for the adult part-time student created by course schedules and location of offerings. Open courses can be started at any time and the packaged course materials permit the learner to progress through the course at a rate and in a location of choice. Scheduled courses require students to attend and participate in regularly scheduled classes. However, there are a limited number of scheduled courses and they are offered only if sufficient student enrollment is attained.

Faculty interviewed supported the open learning system and the instructional techniques utilized, although many pointed out that the approach was more than packaging learning materials and providing the materials to students. The views of faculty on the packaging and distribution of learning materials are captured in one staff member's comment that North Island's approach "is not packages interacting with students, it is students interacting with tutors - the packages are a learning resource." Overall, faculty were positive toward the approach, with several stating that they felt it was the only way to meet the post-secondary needs of the region's population.

Role of Students

The open learning system practised at North Island requires the students to be responsible for managing their learning. The system requires the student to be the primary decision maker regarding his work schedule and rate of progress through a course. This philosophy is put into practise by asking a student to prepare a timetable of how the course will be completed including dates for the completion of assignments. Ideally, the course timetable will be compatible with the student's personal time constraints and academic abilities. The resulting schedule may be treated as a contract between the tutor and the student, although changes to the agreement are permitted. Student attendance at such activities as pacing seminars is optional and tutors are reminded, that even against the better judgement of the tutor, the student is the one who decides his work schedule. This approach to student independence is intended to place the responsibility for learning with the student not the tutor. The principal's position on this philosophy is captured in the following statement from his paper on institutional mutualism: "The tutor's job is not to foster a dependency relationship with the student but to encourage the student to become an independent learner" (N.I.C., 1980:6).

Role of Faculty

The role of a tutor/instructor is described in the Principal's memorandum on Organizational Structures & Relationships. In the memorandum (N.I.C., 1980-a), a tutor/instructor "is responsible to the

Principal for the implementation of learning and training, professional tutoring and instructing services, and managing the student learning environment."

The tutorial duties of faculty are operationalized in several ways. The most common is through appointments made by the student with the tutor. Tutors are available for at least 30 hours per week for either scheduled or unscheduled meetings and office hours are posted. Unscheduled meetings with students are encouraged, except for dedicated times such as while on the duty desk, or during a rarely scheduled class or pacing group. In addition to individual meetings with students, special pacing sessions can be scheduled to bring small groups of students together who are experiencing similar difficulties with a course or who want more information on course content. The availability of faculty to perform this range of services for students is an important feature of the North Island approach.

The workload for faculty is also influenced by an open registration that permits a continuous intake of new students. Each time a new student registers in a tutor's course, the tutor meets with that student to orient him to the open learning concept and/or the course materials. In short, although the assigned course load can be set for the year, the number of students is dependent on the demand in the community. This can result in a fluctuation in the number of students tutored by a faculty member in a given year from a low of 100 to a high of 200.

The role of faculty as a tutor in the college's delivery system proved to be a distinctive characteristic of the role of faculty. There are actually two different categories of tutors: a course and a local tutor. The course tutor is responsible, often college-wide, for the curriculum, evaluation system, recommended textbook(s) and other instructional material for a course. The course tutor is considered to be a subject expert on the course content; that is, the course tutor would have at least a master's degree in the subject matter of the course. A faculty member could expect to be a course tutor for at least three courses.

As a course tutor, the faculty member is responsible for the course, including changes to course content and materials. Course articulation meetings are held at least twice a year at which time course changes and student requirements are discussed by faculty who have the appropriate subject-matter expertise. Many faculty felt that the articulation meetings were the only opportunity to meet with peers to discuss current issues in their subject area.

A local course tutor is a local center resource person to students. As a local tutor, the faculty member may not have had any academic training in the subject matter of the course. A feeling of inadequacy and concern was expressed by some faculty pertaining to the limited role they could play as a local tutor for courses. Specifically, faculty had reservations about their ability to assist students as a local tutor when they did not have expertise in the subject area of the course. This aspect of the local tutor role was expressed by one faculty member as "reconciling myself as an expert in all courses." However, some faculty felt their role as local tutor was to aid the learning process by ensuring the availability of resource materials, directing the students to appropriate references, and to help the students develop work schedules.

The time commitment for tutoring was described by a faculty member as "requiring from 40 to 55 hours per week in order to meet the needs of the 150 plus students in the 12 to 15 courses for which I am responsible." Similar workload and time commitments were echoed by other faculty with a typical workload comprised of three courses for which they were the course tutor and 10 to 15 courses for which they were the local tutor. One of the largest workloads for a faculty member was as the course tutor for 3 courses and a local tutor for 15 courses with a total of 384 students.

The majority of the tutor's time was spent working with students and often in one-on-one situations. Most faculty added that a substantial amount of their time with students was used to "counsel and motivate the student." Several faculty were quick to point out that in other colleges in which they had worked, they had been "committeed" to death, with long hours spent on committees dealing with college administrative issues or faculty issues that had reduced the time they had available to work with students.

Although the workload was considered heavy by faculty, those interviewed expressed many positive aspects of their role such as the breadth of the job, working closely with students and getting to know them well, and the opportunity for flex-time work schedules. One drawback to the role of tutor, mentioned by a few faculty, is captured in this comment: "I am a ham and like to talk in front of a group which is not as available to me with the packaged approach."

The amount of discretionary power faculty stated they had ranged from "tremendous discretionary opportunties" to "restricted by my knowledge of the subject matter." The perception by some faculty that there was considerable discretion in academic matters was supported by comments such as "administration is not hitting you over the head provided you are responsible to your students." One factor limiting academic discretion was the inability to modify courses that had been developed by someone else. However, one faculty member stated that "I don't have to prepare courses, which gives me more time to work with students."

Two rather unique aspects of the role of faculty are the duty tutor and the mobile learning unit tutor. The duty tutor is an assigned responsibility that requires all tutors to spend several hours per week at a resource/reference desk to handle inquiries from students and visitors to the centre. The desk is centrally located in each learning centre and is staffed during the hours the centre is opened. Faculty comments on the assignment were neutral in that they tended to accept the role and some enjoyed the variety of tasks and challenges with which they were confronted such as: "receptionist, registrar, trouble-shooter, finanical advisor and counsellor to students." Others expressed concern that the time spent on the duty desk prevented them from working with their students and marking assignments.

The duties for a tutor assigned to a mobile unit are even more eclectic than his counterpart in a centre. The mobile tutor is often the only personal contact some students have with the college. The mobile learning unit tutor is always on duty desk, responsibile for registration, counselling, library, grading assignments, while continuing to be tutor, mentor and instructor to students. In addition to academic responsibilities, the mobile unit tutor is also a housekeeper and cook. A typical schedule runs from Tuesday to Saturday with the tutor parking the unit in the yard of a public school or near the main street of the town. The hours vary; however, it is not uncommon to be open from 8 a.m to 11 p.m. Students are normally scheduled to meet with the tutor so that no more than two students are in the unit at the same time due to the limited amount of space. The tutor acts as a librarian by dispensing learning materials to students and recommending reference material and other supplemental materials that may be located in the larger static learning centers. If learning materials are requested by a student, the tutor will pick them up at a learning centre and deliver them to the student the following week. Students and members of the communities also use the mobile centre to view video tapes and listen to audio material. Mobile units not equipped for overnight stays operate out of a "static" learning centre on day trips in a spider pattern in an attempt to reach each community at least once a week.

COMPARISON OF THE COLLEGES' INSTRUCTIONAL CHARACTERISTICS

Educational Offerings

Both colleges have educational offerings in the following categories: university transfer, career programs, vocational training, and general interest noncredit activities. University transfer courses is the largest category of offerings on an annual basis at each college. North Island uses more courses from other colleges and universities than Malaspina and has a dual registration arrangement with other institutions. Malaspina has more career and vocational training offerings than North Island. Both career and vocational programs tend to require capital equipment and specialized facilities, neither of which seem compatible with the numerous campuses and mobile learning centers of North Island. Fast-track adds a dimension to the range of noncredit business offerings from Malaspina that is not available from North Island. Furthermore, Malaspina has more formalized linkages than North Island through its use of advisory committees to identify community needs.

The primary differences between the educational offerings of the colleges are that Malaspina has more offerings in each of the categories and devotes a greater portion of its resources to career and vocational programs, and general interest noncredit activities than does North Island. This difference in the volume of activity may be due to the larger regional population base and the larger organizational size of Malaspina over North Island. The difference in offerings can also be associated with the approach to instruction espoused by North Island that could make career and vocational programs requiring special facilities too expensive to duplicate in each of the local learning centers. Alternatively, requiring students from throughout the region to come to one center would not be in keeping with North Island's philosophy.

Admission Criteria

The two colleges differ significantly on admission criteria. Malaspina has academic admission criteria for its university transfer courses and the writing of a skills appraisal test for most offerings, plus a personal interview for entrance into the career programs. The time required to process an application for the credit offerings ranges from six to twenty weeks. North Island has basically only one criterion -- that the applicant be a Canadian citizen or landed immigrant and be over the age of eighteen. Provided the application form is completed properly, the time to process an application ranges from two days to two weeks. The minimum admission criteria at North Island College is consistent with its espoused open learning system approach of minimizing the barriers to education.

Access to Courses

Access to courses is different in the two colleges due to the location and scheduling of educational offerings and the instructional techniques employed. Malaspina College utilizes a campus-based model with approximately 80% of its educational offerings at one campus. This model requires most students to commute from their community to the central campus. Alternatively, North Island College has established 15 learning centers, including three that are mobile, located throughout the region, each capable of offering a full range of the college's courses. North Island's multi-learning centers enable most students to complete courses in their local community without the need to relocate or commute long distances.

The majority of Malaspina's offerings are between September and April each year, whereas North Island's courses are available year-round. Registration for the fall and spring semesters at Malaspina is normally in the summer or just prior to the beginning of the semester. At North Island, registration is possible throughout the year with a continuous intake (open entry) and completion dates (open exit) that are dependent upon the progress of the learner rather than pre-established start and completion dates for courses.

Instructional Techniques

The predominant instructional technique at Malaspina is to teach course content in classroom or laboratory settings. The instructor is responsible for the development of course content and how it is presented to the students. Normally, course content is disseminated by the instructor to groups of students through lecturing. Most lectures are supplemented with texts and classroom handouts (printed material) and, occasionally, audio-visual materials are used. Course content is delivered during a regularly scheduled time (normally 3 hours per week) and spaced throughout a semester (normally 15 weeks).

At North Island, an open learning approach to instruction is practised which basically entails the packaging of course materials into a format that permits the learner to extract the relevant content at his own pace. Faculty act as tutors rather than instructors and assist students in progressing through a course. Course materials normally include a textbook and supplemental readings, a student guide, a list of required assignments, self tests and quizzes, and a list of reference materials that are often in a variety of audio-visual formats (e.g. video and audio tapes).

Role of the Student

Students at Malaspina are expected to attend and participate in scheduled class and laboratory sessions. Regular attendance and participation through answering and asking questions does comprise a portion of the final course grade in many of Malaspina's courses. Normally, a student's rate of progress through a course (except for TRAC offerings) is related directly to the pace of the instructor in revealing new course content and the schedule of classes. Students are expected to keep pace with the instructor and to complete assignments and tests as per the course outline.

Alternatively, North Island students are required to work through their packaged course material at their own pace. This approach requires students to develop their own work schedule, in consultation with a tutor, that will enable the student to progress through the material at a pace compatible with academic ability and personal commitments such as family and employment. To assist in keeping the student on schedule, pace sessions may be scheduled, however, attendance is at the discretion of the student. As a substitute for participation in class, students are required to submit assignments by mutually agreed to dates and they are also encouraged to meet regularly with their tutor.

In summary, the role of students differs noticeably in two areas. First, at Malaspina, the student role is to participate as a member of a class and to listen to and ask questions of an instructor. A student at North Island works as an individual extracting information from packaged course materials and obtaining advice from a tutor. Second, the rate of progress through a course is influenced by the class schedule at Malaspina and by the individual student's schedule at North Island.

Role of Faculty

The role and workload of faculty in the two institutions is quite different. Malaspina faculty are required to teach four courses per year (two each semester) that equates to 15 contact hours per week over eight months. North Island faculty are required to tutor/instruct, on average, 12 courses per year that is equated to 30 contact hours per week over eleven months. Expectations beyond the direct teacher or tutor role at the two colleges is also quite different. At Malaspina, faculty are required to post office hours for meetings with students and are expected to participate in college committees. In addition, both the program coordinator and chairman positions are rotated among faculty every three years. At North Island, faculty are assigned to the duty desk in their learning centre for 10 hours per week and, in addition, are expected to maintain posted office hours to meet their tutorial duties. Committees are not commonplace at North Island, therefore, except for the fair comparison committee and course articulation meetings, there is minimal time assigned to committee work.

Faculty at Malaspina have primary tasks related to the preparation of courses materials and lectures notes, and a teaching load of four courses (two in each semester). Each course is normally scheduled for 3 hours per week during the fifteen-week semester. The average number of students was 35 per class and the subject matter of the course is within the faculty member's area of expertise.

Alternatively, faculty at North Island considered themselves as tutors and were not engaged in lecturing to classes or in the preparation of class materials, although they may modify materials to meet the individual learner's needs. A typical tutor's workload would include tutorial responsibility for up to 15 different courses of which only 3 or 4 may pertain to the faculty member's area of expertise.

Although both faculties expressed that they had considerable latitude to make changes to courses, the faculty at North Island felt constrained by the amount of change possible, given packaged courses and their lack of subject-matter knowledge in courses for which they were a local tutor. The comments made during the interviews about the amount of discretion on academic matters are similar to the results of the questionnaire which revealed that North Island staff perceived they had less discretionary power than staff at Malaspina.

Faculty were guarded in their responses to questions about changing or modifying significantly the approaches used to provide instructional services. Faculty at Malaspina expressed caution about using alternative approaches and would want to have a study conducted on the implications of such alternative approaches before using them. Ironically, faculty at North Island were similarly committed to the approach they were using and expressed strongly that it was the only way that college offerings could be provided given the geographic and demographic characteristics of the region.

Finally, the faculty of North Island made frequent and strong statements about how their role permitted a close working relationship with individual students and the opportunity to adapt to meet the needs of the individual learner. Conversely, little mention was made by Malaspina faculty of the working relationship with students or adapting to the needs of individual students.

SUMMARY

The instructional characteristics of the two colleges differ in all six focus areas with the instructional techniques used by each of the colleges acting as the pivotal factor influencing the differences in the other focus areas. The major difference in the instructional techniques between the two colleges is the scheduled classes at Malaspina compared to the open learning system of North Island. North Island espouses their technique as being different from other colleges and the only approach suitable to meet the unique needs of the region. Malaspina does not overtly espouse a particular instructional technique, although scheduled classes with an instructor using the lecture method to conduct a class is the most common approach in use. There are also differences in the admission criteria, access to courses, the role of students and the role of faculty.

Instructional characteristics represent only one aspect of a college's characteristics and it is the relationship between the instructional characteristics and the remaining organizational characteristics (i.e. structural, functional and psychological) that are the focus of this study. The next three chapters contain a description and comparison of the organizational characteristics of the colleges.

CHAPTER SIX

STRUCTURAL CHARACTERISTICS

This chapter contains a description of the structural characteristics of the colleges. Structural characteristics encompass an organization's patterns of staffing, specialization, centralization, decision making, and communications. Such characteristics play an important role in establishing how an organization functions. They provide a schematic of the organization within which staff carry out their roles. For this study, structural characteristics of colleges have been conceptualized and described using five focus areas: (1) profile of staff, (2) formal structure, (3) departmentalization, (4) procedures, and (5) communications. Data for these focus areas were obtained from college documents, interviews and, in the case of the profile of staff, from the questionnaires. The findings for each college are reported under the appropriate focus area.

MALASPINA COLLEGE

Profile of Staff

The profile of staff includes information on the personal characteristics of college staff such as educational training, years of experience in education and at the sample college, and structural information such as the department they work in and their position title. This information is useful to describe and compare the staffing patterns of the colleges and the employment history and qualifications of staff. Information on the personal background of staff was obtained using a questionnaire (Appendix B), with supplemental information, such as the total number of staff, obtained from the college documents (Appendix A).

The questionnaire was used to gather data for two purposes: (1) the profile of staff, and (2) the psychological characteristics of the colleges (reported in Chapter 8). Six questions in the questionnaire focused on personal information about staff and twenty-four items were dedicated to the psychological characteristics. The questions pertaining to staff asked the respondents to identify the college they were employed by, the department they worked in, their position title, the number of years experience working in education, number of years with the current college, and the highest level of education achieved.

Questionnaires were sent to all full-time instructional, instructional support and administration staff, and to a random sample of part-time staff. The overall response rate to the questionnaires was 65 five percent. Frequencies were calculated on all questionnaire statements and a cross tabulation completed on the data gathered from the six questions in the personal section of the questionnaire.

Malaspina has a full-time staff of 219 and a part-time staff that fluctuates up to approximately 150 for brief periods of time. A questionnaire was used to obtain a personal profile of the average staff member. There were 114 responses to the 160 questionnaires sent to staff at Malaspina. From the responses, the largest number, 89, indicated that they worked in an instructional department. The second largest group of respondents, 11, indicated they worked in the continuing education/community education department. The third most frequently responded to category was the other/learning resources/ student finance with 8 responses. The balance of the respondents indicated they worked in the following departments: administrative, instructional support services, and counselling. In addition, a few respondents selected more than one department.

In addition to identifying the department in which they worked, respondents were asked to indicate their job title. The majority of respondents indicated they were instructors - 72 full-time and 17 part-time. Responses to the highest level of education resulted in 10 with a bachelor's degree, 21 with a master's degree, and 10 with a doctorate. In response to the number of years working in educational organizations, the mean for the respondents was 12 years. The second question pertained to the number of years of service with Malaspina which produced a mean of 8.8 years.

Formal Structure

Malaspina College has a hierarchical management structure with five levels (see Figure 11). At the top level is the college board that is responsible for the overall governance of the college. The primary role of the board is to establish policy and a budget with which the executive is to operate the college. Board membership is established by the province, and was originally comprised of eight government appointees, one of whom was the chairman, and a representative from the elected school board trustees for each of the school districts within the college's region. However, the membership of all British Columbia college boards was reduced by the government in the spring of 1984 leaving only the five government appointed members. The president, who is the chief executive officer of the college, is not a member of the board, although he does participate in board meetings.

Below the president are three deans - dean of academic and technical programs, dean of vocational programming, dean of community education and student services, and the bursar. Each dean is responsible for the operation of his division including control over budgets, staffing, and academic matters. The bursar is the financial officer of the college and it is a mandated (by provincial legislation) position for all British Columbia colleges. The aforementioned positions report to the president and, with the president, comprise the

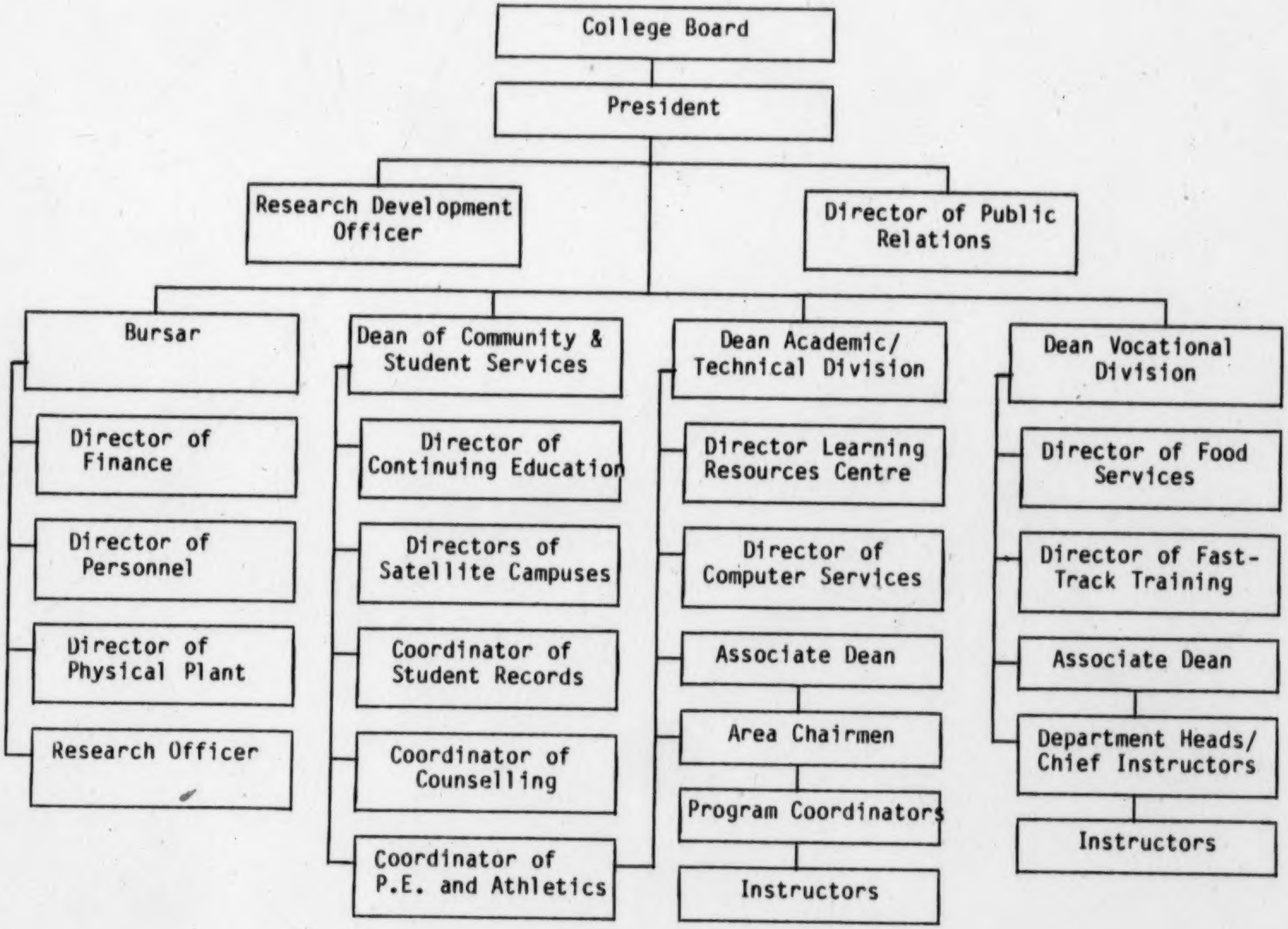
College Board
President
Research Development Officer
Director of Public Relations
Bursar
Director of Finance
Director of Personnel
Director of Physical Plant
Research Officer
Dean of Community & Student Services
Director of Continuing Education
Directors of Satellite Campuses
Coordinator of Student Records
Coordinator of Counselling
Coordinator of P.E. and Athletics
Dean Academic/ Technical Division
Director Learning Resources Centre
Director of Computer Services
Associate Dean
Area Chairmen
Program Coordinators
Instructors
Dean Vocational Division
Director of Food Services
Director of Fast-Track Training
Associate Dean
Department Heads/ Chief Instructors
Instructors

Figure 11

MALASPINA COLLEGE ORGANIZATIONAL STRUCTURE membership of the executive committee which is the senior decision-making body at Malaspina. Also reporting directly to the president are the director of public relations and information services and a research development officer.

Reporting to the deans and the bursar are associate deans, campus directors, the directors of service areas, and an assistant bursar. The registrar position is also designated in this level of management. However, at the time of this research, a decision had been made to operate without a registrar with the dean of community education and student services responsible for the functions of registrar.

The next level of the formal structure contains several management positions that vary in scope of responsibility and in the nature of the appointment. In the academic and technical division, there are four area chairmen each with responsibility for a defined area. A chairman is selected from the faculty, by the faculty of the area, for a three-year term. The vocational division has department heads and chief instructors who are selected by the dean to supervise the staff and manage the curriculum of a program area. In the support areas such as finance, computer services, counselling and personnel, there are coordinators who are employed in their management role on a continuing basis.

The lowest level of management is comprised of subject and program coordinators in the instructional divisions, and supervisors in some of the service areas. Positions at this level have a limited area of responsibility such as one academic program or, in the case of the service areas, the responsibility for payroll.

Under the five levels of management are the faculty, clerical and secretarial staff, technicians and other support staff. The formal structure gives line authority for the supervision of these staff to the first level of management, although in the case of faculty there are exceptions. The faculty tended to view the dean or associate dean as their "boss" and considered the program coordinator and area chairman as more of a staff position. Given the term and selection process for coordinator and chairman, the limitation on the line authority of the positions is understandable. Also influencing the management role of chairmen is the participation by faculty in determining work load, changes to curriculum, and selection of new staff.

Departmentalization

Departmentalization refers to the distribution of programming areas and service areas in a college. Malaspina is organized into 27 departments that are under one of the three divisions - academic and technical, vocational, and community and student services, or under the business office. Within the academic and technical division, there are four departments - math/science, humanities, social sciences, and business and public administration. These departments offer university transfer programs and courses, service courses, and one and two-year programs. The vocational division offers 15 programs ranging from adult basic education to welding, that vary in duration from a few weeks to two years. The community and student services division has three departments - college services, student services, and community education. In addition to the departmentalization already mentioned, the deans have each been assigned the responsibility for a college-wide activity, such as computer services.

Formalization of Procedures

Malaspina has two documents that contain procedures for the college. The primary document is the Malaspina College policy and administrative directive manual (M.C., 1982-b) that contains the procedures that apply college-wide. The procedures are classified under one of the following - board, finance, personnel, or administration. Procedures are detailed in the manual under individual policies that include the policy statement, recommendations, cross-references, approval and amendment dates. However, based on the interviews, limited use is made of the manual by staff. Supplementing the college manual is the academic technical and career division procedures manual (M.C., 1983-c). In addition to procedures on such matters as the selection of staff and the purchasing of materials, the manual contains the administrative structure of the division and the role and membership of divisional committees. The divisional procedures are in keeping with the college procedures and, in fact, many of the divisional procedures are just restatements of college procedures.

Supplementing the two policy manuals are two collective agreements (described in Chapter Seven) that contain procedures on such matters as how to apply for a leave and the steps to follow to initiate a grievance. The procedures outlined in the collective agreements are used regularly as a reference by administrators. This is in contrast to the policy manuals which are seldom used by administration. From the comments made during interviews, the written procedures are referred to only if there is some concern about a possible repercussion from the action to be taken.

Communication Systems

Communication systems is used here to focus on the internal communications among college constituents. At Malaspina, there are several official vehicles of communication including "Main-ly Malaspina" which is a regular newsletter directed at staff containing information on topics ranging from the budget to job opportunities at Malaspina and other colleges. Supplementing the newsletter is a student newspaper that is published during the academic year and carries many college articles. All official college communications to the external community are to be routed via the director of information services.

A significant aspect of Malaspina's decision-making process relies on input and, in some cases, approval by a committee. This places importance on the communications that flow to and from committees. The responsibility to ensure that there is communication between college constituents and committees is that of the committee chairman. The normal method of communication is through the distribution of agendas and minutes. However, at Malaspina this distribution is normally limited to the committee members and designated staff, plus the minutes are posted in several locations on campus. Informal communication about committees occurs at departmental meetings and during lunch and coffee breaks. However, the communication from a committee to college constituents is primarily dependent upon the chairman. In the words of the president: "Most committees have an administrator responsible for the minutes and other forms of care and feeding." Administrators seem to be chosen either because the committee was established to provide input into an area for which they have responsibility or because they have access to clerical staff for the preparation of agendas and minutes. When asked about the activities of committees for which they were not a member, most respondents indicated they did not read the posted minutes and, in some cases, were unaware of the purpose of the committee.

NORTH ISLAND COLLEGE

Profile of Staff

North Island College has 65 full-time staff and, dependent upon the need, up to 75 part-time staff. There were 55 responses from the 100 questionnaires sent to North Island staff. There were responses from each department and position category in the college. Thirty-eight or 69.1 percent of the North Island respondents indicated they worked in the instruction department. There were nine respondents from each of the continuing education, administrative services, and instructional support. Eight respondents identified themselves as attached to the counselling department which is surprising because North Island has neither a counselling department nor counsellors. Counselling may have been selected because some tutors consider counselling students to be part of their role. Six respondents indicated they worked in either the learning resources, registrar or student finance departments or wrote in the appropriate department name.

The position with the largest number of respondents, 23, was full-time instructors, followed by part-time instructors with 15. Twenty or 37 percent of the respondents have a master's degree, and 9 or 16.7 percent have a doctorate. Respondents had an average of 10.4 years of working in education and averaged five years working at North Island.

Formal Structure

The organizational structure is relatively flat, with significant centralization of administration (see Figure 12). The management positions are the principal (C.E.O.), the function directors with college-wide responsibilites, and the learning center directors. The levels of management are also reflected in the fair comparison

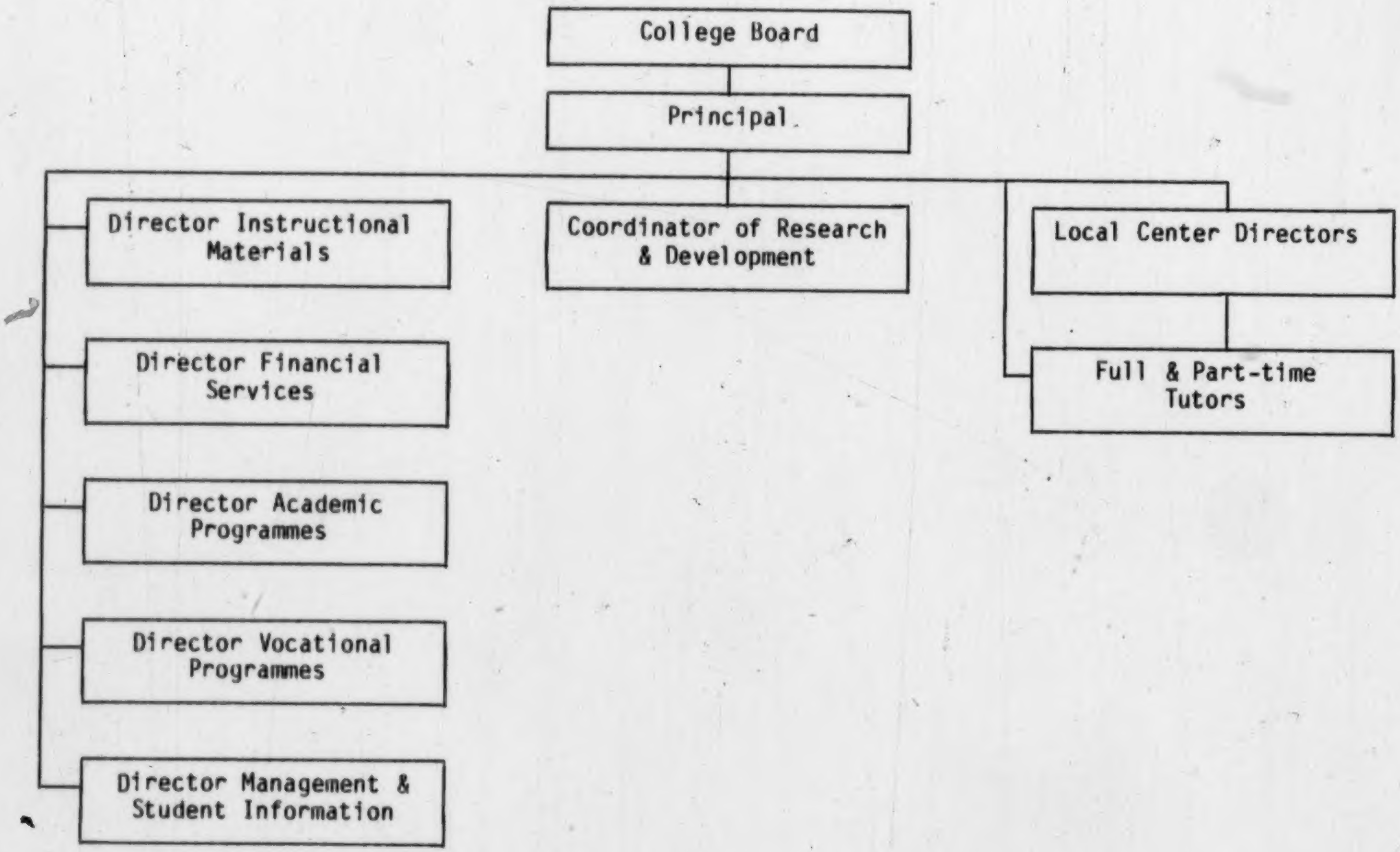
College Board
Principal
Director Instructional Materials
Coordinator of Research & Development
Local Center Directors
Full & Part-time Tutors
Director Financial Services
Director Academic Programmes
Director Vocational Programmes
Director Management & Student Information

Figure 12

NORTH ISLAND COLLEGE ORGANIZATIONAL STRUCTURE system, used to determine compensation. The fair comparison system is comprised of six bands used to identify the various levels of management responsibility and decision making, and ten grade levels used for calculating salaries. Band E is for top management involved in policy decisions, which at North Island is the board although do not receive a salary nor are they employees of the college. Band D is for senior management who make planning decisions and includes the principal (at grade level 8) with coordinating responsibilities and function directors (at grade level 7) with planning responsibilities. The learning centre directors are classified as middle management in band C (at grade level 6) with the task of making interpretive decisions and coordinating the interpretive decisions of tutor/instructors.

The centralization of administration is considered by the principal as essential for two reasons. First, "the cost to replicate the organization structure and functions at each of the learning centers would be prohibitive." Second, it was considered important to have a "centralized administration building to ensure that there was no central or main learning centre." This second reason was particularly important to the principal who wanted to ensure the equal distribution of resources throughout the region. To minimize the insulation effects of the centralization of administration, administrators are expected to visit at least one learning center each month.

Based on the aforementioned, the resulting formal structure reflects a centralization of authority and decision making. The authority for each management level has been succinctly defined and presented in a forthright manner. Structural authority, based on position, is stressed - "Obedience to commands given is expected and the failure to obey will lead to some form of disciplinary action" (N.I.C. 1980-a:6). Three additional terms (described in Chapter 7) are used in college documents to describe management relationships with staff, namely: responsibility, accountability, and sapiential authority.

The principal is responsible to the board for all college matters and is the primary communication link from college staff to the board. All of the management positions, including faculty, are responsible directly to the principal. However, the accountability of a position determines the reporting structure. For example, faculty are accountable to center directors who, in turn, are accountable to function directors for the specific college-wide responsibilities of each function director.

The five function director positions with college-wide responsibility are - director of academic programs, director of vocational programs, director of instructional materials, director of management & student information systems, and director of financial services. These five positions are responsible to the principal for all activity pertaining to their respective departments and accountable to collaborate and communicate with the center directors and faculty. There are two other positions with college-wide responsibilities: a coordinator of research and development and an accountant.

Exploration of the reporting structure for faculty members raised some differences of opinion. Given the principal's paper on responsibility and accountability, some faculty said they reported to the principal, with other faculty identifying the center director or the director of academic programs. Officially (N.I.C., 1980-a), faculty are accountable to their centre director while being responsible to the principal. This separation in reporting lines causes some concern to one center director who finds it difficult to act as a staff supervisor for faculty who are responsible to someone else. Ironically, many faculty at that particular center felt that they reported to the center director.

Departmentalization

North Island does not have departments or divisions, although there are functional and organizational areas that can be equated to departments. Each of the five function director's area of responsibility can be equated to a department, albeit with college-wide responsibilities. However, the operation of these five function areas is such that it is difficult to determine the boundary lines for any one of them. For example, the director of academic programs is actively involved in curriculum design, course content, and learning materials which are functions of other areas.

The fifteen learning centers can also be considered departments or organizational units. A similar selection of courses is offered at each center resulting in little difference among the centers except for size and location. The openness and exchange of information among the "departments" suggests that limited attention is given to the boundary of a department. However, there is sufficient delineation between learning centers that several staff commented on how much better equipped and staffed another center was when compared to theirs.

The lack of formalized departments is consistent with the flat organization structure and with the overall approach to flexibility to meet changes in the environment.

Formalization of Procedures

North Island does not have a policy manual, however, several staff said they thought there was a manual, adding that they had not personally made use of it. One faculty member, who said that the college "lacks a unified approach in dealing with issues," felt that the situation could be corrected if a policy manual was developed and used. A director stated: "There are policies, however, they are not written in any one manual." He felt that college board resolutions and subsequent amendments were policy statements although most issues were handled at the local level without referring to policy. Several of the principal's internal memorandums do delineate the procedures and policy on a specific topic. Overall, the lack of an official policy manual was not perceived as a disadvantage by staff or administrators. In fact, the lack of a policy manual was considered to be beneficial by some staff who suggested that it enabled the application of "common sense" to resolve issues.

There are no employee collective agreements that would normally be another source of procedures in a college. Some staff considered the lack of such employee procedures as putting too much faith in the judgement of administration, while others were pleased at not having to work to a defined set of procedures.

Communication Systems

The communications medium most fequently used by staff for college business is verbal, either via the telephone or in person. The lack of memorandums and other forms of written communication is apparent, and the comments made by staff, many of whom expressed disdain toward "the endless flow of paper" that is a common trapping of colleges, supported the limited use internally of written communication. The apparent penchant to rely on verbal communications is reflected in such comments as "wanting to get things done without unnecessary delays waiting for a response," and "memos are used infrequently for internal items," and "only put it in writing if there are extraordinary circumstances." One operational example of verbal communications is the ordering of supplies from the instructional materials center by phone as opposed to a written requisition.

To facilitate verbal communications, the college has toll-free telephone lines between the major learning centers. In addition, some of the telephones are equipped with a speaker feature that allows for hands-free operation and for others in the same room to participate in the conversation. This phone feature was considered important by several of the administrators who spent a considerable part of their day engaged in telephone conversations. In the administration centre, all of the administrators' offices are in close proximity to one another to further facilitate verbal communications. One administrator stated that communication with fellow administrators was stressed and that problem solving was often done in an open forum in the offices. Given the flat structure and the location of offices, one administrator felt that "there was never any excuse not knowing what was going on."

Formal communications from college constituents to the board is to be made via the bursar 15 days in advance of the board meeting. The board agenda is published in local newspapers in advance of the meeting with an open invitation to attend. In keeping with the centralization of administration, all communication with the provincial government is routed via the principal.

COMPARISION OF THE COLLEGES

Profile of Staff

The profile of the staff for the two colleges was similar. The notable exception was the difference in the number of full-time staff in the two colleges - 219 for Malaspina and 69 for North Island. Proportionately, North Island has more part-time staff in relationship to the number of full-time staff - at least one part-time staff for every full-time staff position. The data collected on which department staff worked in and their position title is summarized in Tables 4 and 5. Worth noting is that some respondents from both colleges indicated they worked in more than one department. Also, eight North Island respondents indicated they worked in the counselling department although no such department exists. Subsequently, no North Island respondent indicated his position title was counsellor. It is assumed that counselling department was selected, in addition to instruction department, to identify the eclectic role of faculty at North Island.

A mean of 12.0 years working in educational institutions was recorded for those at Malaspina and 10.4 years at North Island College (Table 6). In the number of years of service with the colleges, the means were 8.9 years for Malaspina and 4.9 years for North Island.

The t-test that was conducted on all questionnaire items including the personal data questions, resulted in significant difference (Table 7) in the years of service with the current college. The mean for the years of service was 8.8 years for Malaspina staff and 5.0 years for North Island staff. However, there is a difference in the starting dates of the two institutions - 1969 for Malaspina and 1975 for North Island. This difference in the number of years of operation could account for the difference.

In the category of highest level of education completed, the mode was a master's degree in both cases. The results suggests that the level of academic qualifications of the staff in the two colleges is similar.

Table 4

COLLEGE STAFF PROFILES: COLLEGE AND DEPARTMENT

CHARACTERISTIC	MALASPINA		NORTH ISLAND		TOTAL SAMPLE	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Which college are you employed by?	114	67.5	55	32.5	169	100
Department or area you presently work in?						
-Instruction	89	78.1	38	69.1	127	75.1
-Continuing Education/ Community Education Dept.	11	9.6	9	16.4	20	11.8
-Administrative Services	6	5.3	9	16.4	15	8.9
-Instructional Support	4	3.5	9	16.4	13	7.7
-Counselling	5	4.4	8	14.5	13	7.7
-Other/Learning Resources/ Registrar/Student Finance	8	7.0	6	10.9	14	17.9

Table 5

COLLEGE STAFF PROFILES: POSITION TITLE

CHARACTERISTIC	MALASPINA		NORTH ISLAND		TOTAL SAMPLE	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Job title that best describes your present position.						
-Instructor - full time	72	63.7	23	41.8	95	56.5
- part time	17	15.0	15	27.3	32	19.0
-Counsellor	4	3.5	-	-	4	2.4
-Instructional Assistant or Technician	3	2.7	1	1.8	4	2.4
-Academic Administrator	1	.9	5	9.1	6	3.6
-Instructional Designer or Research Officer	-	-	-	-	-	-
-Non-Academic Administrator	5	4.4	1	1.8	6	3.6
-Librarian or Library Technician	3	2.7	-	-	3	1.8
-Secretary or equivalent	-	-	7	12.7	7	4.2
-Other	8	7.1	3	5.5	11	6.5

Table 6

COLLEGE STAFF PROFILES: EXPERIENCE AND EDUCATION

CHARACTERISTICS	MALASPINA		NORTH ISLAND		TOTAL SAMPLE	
	Frequency	Mean	Frequency	Mean	Freqency	Mean
Number of years working in educational organizations.	113	12.0	55	10.4	168	11.5
Number of years with this college.	113	8.8	55	5.0	168	7.6
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Highest level of education completed is:						
High school or Equivalent	11	10.2	4	7.4	15	9.3
College, Technical School	17	15.2	7	13.0	24	14.8
University-Bachelor	21	19.4	14	25.9	35	21.6
University-Master	49	45.4	20	37.0	69	42.9
University-Doctorate	10	9.3	9	16.7	19	11.7

Table 7

RESULTS OF A T-TEST ON YEARS OF SERVICE

CHARACTERISTIC	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
Number of years with this college.	8.8	4.8	113	5.0	2.5	55	6.88	0.000**

** Significant below the .01 level.

In summary, the results from the personal data section of the questionnaire indicated that the average respondent from each college had over ten years experience working in educational organizations with those from Malaspina having more years of service with their current college. The educational qualifications of instructional staff at the colleges was similar with the norm being a master's degree. The majority (93.2%) of the respondents were in instructional roles. Proportionately, North Island has more part-time staff in relationship to full-time staff than Malaspina.

Formal Structure

Malaspina has a five-level management structure that formally places four levels of management between staff and the president and board. North Island has a two-level management structure that has staff responsible to the principal for specified aspects of their role. Decision making and authority are decentralized to the divisions at Malaspina whereas North Island has centralized decision making and authority in the principal's office. Differences in the two formal structures can be attributed to such factors as the differences in the size of the two organizations and the approach to instruction.

The differences in the size of the two colleges - 219 staff at Malaspina versus 69 at North Island, would make the centralizing of authority and decision making in the larger college a slow and cumbersome process. The approach to instruction was identified by the principal of North Island as the primary reason for a centralized structure. The principal stated that the cost of duplicating the centralized services in each of the 15 learning centers would be prohibitive.

In summary, the key differences are a hierarchical structure with a decentralization of authority at Malaspina, compared to a flat structure with a centralizing of authority at North Island. Two reasons posited for the different organizational structures are the differences in the size and approach to instruction by the two colleges.

Departmentalization

Malaspina is organized into three major divisions and 27 departments. North Island has no formal divisions or departments, although several of the functional areas can be equated to departments. The departments at Malaspina are referred to by commonly used academic terms such as humanities, social sciences, and business. Alternatively, North Island uses terms such as management and student information systems, and instructional materials to identify "departments." The academic departments at Malaspina identify to the student the programming areas whereas North Island organizes programs under learning centers.

The differences in departmentalization of the colleges are associated with the educational offerings and the approach to instruction. At Malaspina, departmentalization is based on the type and classification of courses. For example, the apprenticeship and trade programs are under the vocational division, and the accounting program is in the business area. North Island has its course offerings organized under each learning center without regard to whether it is a business course or an English course. This open approach to departmentalizing courses is consistent with the open learning system practised at North Island.

Formalization of Procedures

The primary difference is the level of documentation. Malaspina has two policy manuals and two collective agreements that detail procedures. North Island has no policy manual or collective agreement, however, there are a few memorandums from the principal and the minutes of board meetings that contain policy statements and procedures.

Malaspina's policy manuals are readily available to all staff, although many of those interviewed stated they seldom referred to the manuals. The collective agreements were used regularly, especially by area chairmen who felt it was important for them to represent their faculty. The lack of a policy manual at North Island was generally considered by those interviewed to be a benefit to the college. In place of a manual were several directives from the principal which concisely delineated the policy and procedures on a variety of topics. The lack of an employee agreement was considered by several faculty to be a drawback to functioning as a professional in the college.

Communication Systems

Malaspina's internal communication network is a blend of formal written material, especially the minutes of the numerous committees, and an open-door approach practised by administrators. North Island's communication system relies heavily on personal contact and the telephone.

Malaspina has several house organs that are used to keep staff aware of the changes and plans of the college. Supplementing these is the accessibility of staff to administrators, that is made possible by the majority of staff being located on one main campus. Staff interviewed felt that the communication between administrators and staff was very good and that there was open access to budget information and future plans.

North Island used several techniques to enable good communication among staff. For example, the arrangement of offices in the central administration building, which is a converted house, is such that two directors shared an office or area and the doors, where they do exist, are not closed. Most of the college phones are equipped with a speaker feature to allow "hands-free" telephone calls. In addition, the monthly visits by administrators to each learning center provides an opportunity for face-to-face communications. However, the multi-locations of the learning centers does limit the opportunity for communications among staff.

SUMMARY

The two sample colleges differ on all of the five structural characteristics - formal structure, departmentalization, formalization of procedures and communication systems. Many of the differences can be attributed to the particular approach to instruction employed by the college. The formality and inflexibility imposed by the official structure and the policies and procedures of Malaspina were not evident in the daily routine of the college. These structural characteristics were not perceived by the staff as imposing or as creating road blocks to getting things done. In fact, many staff indicated they seldom referred to the college policy manual. Communication was relatively open, and particularly noteworthy is the high volume of information that flows from the president's office to staff, especially on matters pertaining to the budget.

North Island has a flat organizational structure with considerable centralization of authority and decision making. There is no policy manual or collective agreement at North Island. In the absence of a policy manual, several directives from the principal provided considerable direction in the responsibilities and accountability of staff. There is a high degree of control over how things get done in this college.

CHAPTER SEVEN

FUNCTIONAL CHARACTERISTICS

This chapter contains a description and comparison of the functional characteristics of each college. Functional characteristics relate to how the college conducts its affairs; that is, how key functions in the daily operation of the college are carried out. The primary sources of data for this chapter were college documents and interviews with staff from the colleges. The chapter is organized into three main sections with the first two sections containing a description of each college using the subsystems headings and, in the last section, the two colleges are compared.

MALASPINA COLLEGE

Production Subsystem

The production subsystem of organizations can be described in terms of what goods are produced or services rendered, how they are produced and who is involved in the process. More explicitly, the production subsystem is concerned with the interrelationship among the various components of production and the factors that influence the functioning of the components. For colleges, the primary components of the production subsystem are faculty and the instructional techniques used by faculty.

The staff at Malaspina can be classified into four basic categories of staff: academic faculty, vocational instructors, support staff and administrators. All categories of employees, except full-time administrators, are represented by a union or association. The academic/career division faculty are represented by a local association, the Malaspina College Faculty Association. Although area chairmen have some academic administrative duties they are members of the Malaspina College Faculty Association (M.C.F.A.) and the terms and conditions of their positions are negotiated by the association and specified in the M.C.F.A. collective agreement. The vocational instructors are represented by the British Columbia Government Employees Union (B.C.G.E.U.) and the Canadian Union of Public Employees (C.U.P.E.) represents the support staff.

A major factor influencing how faculty carry out their functions is the employee contract. Instructional staff at Malaspina work in one of two divisions that each operate in separate facilities and under separate collective agreements. The employment contracts or collective agreements are between the college board and the unions or associations. These agreements contain the terms and conditions of employment including salaries and benefits and the guidelines for who does what and, to some degree, how it is to be done. The two agreements are different in several aspects including salary grid, qualifications for placement on the salary grid, workload, professional development, benefits and local versus provincial negotiations. The vocational instructor's contract is negotiated from a province-wide perspective (B.C.G.E.U.) and the academic faculty contract by a local association (M.C.F.A.). In recognition of these differences between the two divisions, certain responses reported are qualified as being from either a faculty member in the academic technical division or an instructor in the vocational division. To obtain details of instructional responsibilites, questions were asked in the interviews that focused on the actual methods of carrying out their instructional tasks and how they utilized the support services and participated in college committees.

Instructional duties common to all instructional staff include the preparation of course materials, examinations and tests, giving lectures and laboratory/seminar supervision, and the evaluation of students. In addition to direct instructional responsibilites, faculty are expected to maintain office hours for meetings with students, to participate in divisional and college committees, and may be given some administrative tasks.

The standard format for scheduling is two hour blocks twice a week for each course. Some faculty stated that they would prefer one hour blocks four times throughout the week. In the academic and technical division, the number of students per class ranges from 20 to

50 dependent upon the course content and facilities. The class sizes in the vocational division are slightly smaller ranging from 12 to 28 with the number of students determined by the size of the laboratory, the number of pieces of equipment and the subject matter or level of skill being taught.

The amount of discretion that instructional staff have on instructional matters was expressed as considerable by those interviewed. In fact, when pressed to give an example of some limitation to their discretion on instructional matters, many of those interviewed could not think of any. One instructional staff member felt the only limitation on the extent of his discretion was that imposed "by the faculty contract and the budget." Others made reference to the limitations imposed by the number of students in a class, the size of the classroom, the amount of laboratory equipment and the scheduling of courses.

Although the primary approach to instruction at Malaspina is the lecture technique, there are a few alternative approaches being used. One example is the introductory biology course that uses an audio-tutorial technique where students receive some of the course content by listening to audio tapes. Students are required to listen to a tape prior to attending each of the weekly three-hour lectures and the one-hour seminars. In addition, students are expected to spend time in the laboratory practising the theory or procedures covered in the audio tape.

Many of the faculty interviewed indicated a hesitancy to attempt alternative approaches to instruction, with some faculty adding that there was no need to consider alternative approaches because their current methods were adequately meeting the needs. This hesitancy was also reflected in the low use of the support services such as media production. When faculty were asked to comment on the support services such as media production, many indicated that they had not used the service and several were not aware of services available.

One faculty member, when asked about the use of alternative approaches to teaching, stated that he was "not interested in evaluating or using new techniques." When asked to expand on the reasons for his statement, he added that "a film should be ten times better than any of his lectures before he would use it." His rationale for taking such a position was that "the lecture works, therefore, why change." He added that before Malaspina begins to experiment with alternative approaches, there was a need to talk more with faculty from other colleges who are using alternative techniques.

The initial placement on the salary grid in the M.C.F.A. agreement (M.C.:1983-b) is based on formal academic qualifications that enables the holder of a doctorate to start highest on the grid. There is also an equivalency clause (D.2.2.3) that allows for placement based on two or more years of relevant experience equated to each year of a degree. In the B.C.G.E.U. agreement (M.C.:1981-b), placement is based on work experience with either one year of teaching experience beyond the first two years in an approved educational institute or two years of relevant work experience beyond the first four years for each increment to a maximum of step 4 (half-way up the placement grid). In both agreements, progress up the scales is one increment per year or more due to increased qualifications. The vocational instructors can be granted an additional increment for successfully completing the vocational instructor's diploma that is available from the Ministry of Education.

Faculty workload in the two agreements is described in terms of contact hours. M.C.F.A. faculty are required to instruct a minimum of 12 and a maximum of 15 hours per week for two semesters and the B.C.G.E.U. instructor's contact hours are 28 per week per semester. In both cases, the workload is defined in terms of scheduled student contact hours with articles/clauses to ensure that the total number of students per hour is not beyond a specified maximum.

Overtime or overload is not encouraged in the M.C.F.A., although if a member is requested to teach beyond the maximum load, additional compensation is based on the temporary faculty hourly pay rate. In the B.C.G.E.U. agreement, overtime and "night school" assignments are paid at time and one-half. In addition, provision is made in the agreement for up to three shifts for programs, although the current limit is two (daytime) shifts for programs with high enrollment. The B.C.G.E.U. agreement also makes reference to two "rest periods" of 15 minutes each that are to be allowed during each shift.

Supportive Subsystem

The supportive subsystem of organizations includes those activities related to the acquisition of input material and the development and maintenance of good relationships with appropriate environmental factors. For colleges, the supportive subsystem encompasses student recruitment, registration, student services and community relations through such vehicles as advertising, marketing and advisory committees.

At Malaspina, advertising of college offerings is coordinated by the public relations and information services office that reports directly to the president. However, the directors of community education for each campus are responsible for advertising local community education offerings. Advertising for student recruitment requires authorization by an appropriate signing authority, normally a dean, and the registrar.

The recruitment of students is limited to the assigned geographical region with the primary target group being students graduating from the region's high schools. It would appear that the bulk of college advertising is through the distribution of the college calendar and a series of one-page overview sheets on everything from "A Co-operative Answer to Hard Times" (M.C., 1984-c) to "Services Consultants to Malaspina College" are used to communicate information to the community.

The primary market from which students are drawn is the city of Nanaimo. The majority of the full-time students applying to Malaspina select a university transfer program. It was difficult to ascertain the amount of advertising that is done to recruit students, except for the more overt advertising for the continuing education/community education courses. In fact, when asked, most instructional staff were not aware of what advertising the college did to attract new students. However, most instructional staff were aware of the importance of maintaining adequate enrollments and the linkage between the number of students and budgets. One chief instructor described her program's rigorous selection process as being intended to select candidates who would remain with the program to graduation. The chief instructor underscored the importance of selecting students who were interested in graduating because it is "important that the seats stay full for the full term."

Administrators and faculty with administrative responsibilities were more cognizant of the importance of enrollments than the instructional staff. At the time of the interviews, the Ministry of Education had just introduced a new budgeting formula for granting operating money to colleges that is based on enrollments. Several administrators admitted they were still trying to calculate what it was going to do to next year's budget for the college and the divisions. The faculty had begun to react to the new formula and recognized the importance of F.T.E. (full-time equivalent) students and the link to funding. They were encouraging the college to cut back on the satellite campus funding and offerings to ensure adequate numbers of full-time students would enroll at the Nanaimo campus. "Let's bring everything onto the main campus," was one interviewee's solution to costs associated with the dispersal of students and resources to satellite campuses. Another suggestion to increase enrollment was to remove the provincial ban on foreign students attending the public colleges. The president expressed particular interest in this issue and was working on developing relationships and exchanges with colleges in China.

Application forms and college calendars are distributed to the high schools and to all college campuses. Application forms can be mailed or submitted to any of the campuses. The main campus houses the registration centre at which all applications are processed. With the vast majority of the credit offerings scheduled between September and April, the registration process for the fall semester precedes the commencement of classes by up to six weeks and is spread over that time frame.

Under the supportive subsystem, in addition to the recruitment of new students, is the acquisition of money to operate the college. For the public colleges, the largest single source of operating and capital funds is the provincial government. As mentioned previously, there are at least two factors that are playing a major role in determining how much money each British Columbia college receives. The first is a pledge by the current government to reduce government spending and to eliminate the provincial deficit. This has translated into severe cutbacks in government spending. The second is the recently announced formula for grants that is enrollment driven and does not provide for automatic annual increases to operating budgets.

The acquisition of adequate funds was of concern to all who were interviewed. Of primary concern was the related issue of job security, given the current and impending budget cutbacks. The responsibility for the acquisition of funds rests ultimately with the board and the president. However, the process of preparing the budget involves input from the chairman and chief instructor level up to the president. Each unit is asked to prepare its budget requirements within a prescribed set of parameters. After these requests have been ratified by the divisional dean and associate dean, they are presented to the executive committee which prepares the college-wide budget submission. The process appears to be democratic and participatory; however, comments made by several administrators implied that individual behavior in budget meetings was "far from statesmanlike."

After the budget requests have been ranked in order of priority by the executive committee, they are submitted to the deputy minister. The submission is made at a series of meetings that are normally attended by ministry officials, including the deputy minister, the president and one or more of the deans. The president admitted that he devotes sometime to cultivating the relationship between the college executives and ministry officials. Board involvement in the budget process includes the approval of the budget prior to submission, and the agreement and subsequent approval of the internal allocation of the approved government grant. The chairman of the board may attend the first meeting with ministry officials and, in addition, may use his relationship with the elected government officials to draw attention to the needs of the college.

In addition to the government, other sources of revenue include tuitions, special fees for registration, contracts with the private sector and government, and a variety of cost-recovery activities. The majority of the community services division's course offerings are made on a cost-recovery basis, with no attempt to make a profit. One community education division staff member indicated that this practise may change as funds decrease and demand for services remains high. Fast Track is another example of a cost-recovery activity, although several staff admitted that a small profit was necessary in order to develop and market future offerings. Salaries for some of the staff in several of the cost-recovery activities are paid out of the revenue generated.

In summary, the supportive subsystem at Malaspina is not overtly active in the recruitment of students, although that could change in the future with the introduction of an enrollment-driven funding model. Staff interviewed expressed concern over the new funding formula. As a result of the concern for funding, there were several ongoing inhouse debates regarding the continuation of funding satellite campuses, given the high cost per student of these smaller campuses. One way to increase enrollment mentioned by the president is to remove the ban on foreign students, thereby allowing the public colleges to actively recruit students from other countries. At the time of the interviewing the president was trying to establish faculty exchanges and assignments with colleges in China. In the acquisition of funds, the president plays a leadership role in the preparation and presentation of the budget, although other administrators are actively involved. A common perception held by the faculty interviewed is that there is opportunity for input into budget requests, however, "the real decisions are made by the executive committee."

Adaptive Subsystem

The adaptive subsystem of an organization encompasses those activities intended to ensure the survival of the organization. Examples of adaptive subsystem activity include the development of mission statements, objectives, goals and plans, and the establishment of linkages with the environment.

The adaptive subsystem in most colleges engages in such planning activities as projecting potential student growth, surveying community demand, monitoring environmental trends that may affect programming and exploring areas for new programming. Although a research and development department may exist, adaptive subsystem activities normally involve representatives from several or all of the constituencies within an organization. The sense of collegiality and the committee structure that are prevalent in most colleges makes the development of objectives and other forms of planning a participatory activity engaging staff from throughout the college.

At Malaspina College, the process of developing goals and objectives is one that touches most departments within the college.

The development of goals and objectives is aided by a research development office that prepares the background data necessary to planning. After passing through the various levels of administration, final approval of college-wide objectives rests with the board of trustees.

Malaspina's goals and objectives are articulated into statements at several levels of planning. At the macro level, there is a statement of purpose. This rather broad statement is distilled into ten goal statements which provide specificity to the purpose statement.

The key phrases of the Malaspina statement of purpose (M.C., 1983-d:6) are "determining educational needs of all people" of the region and "providing the wide variety of educational experiences necessary to meet these needs." Emphasis is given to Malaspina being a comprehensive college providing a full range of educational offerings from university transfer to noncredit community service. The concept of community service is reflected in the five-year plan developed to meet the Minister of Education's request that all colleges develop a five-year plan of action predicated on a "zero-lift" increase to operating budgets. Malaspina'a five year plan does not provide details beyond 1984-85. The rationale given for limiting detailed plans to 1984-85 is that the projected financial cutbacks will have such severe consequences for Malaspina that a major change will be required.

In the five-year plan (M.C., 1983-a:1), there is reference to "extensive public consultation" which is viewed as essential for Malaspina due to the college's commitment to serving its community. In the plan, four cornerstones of the college are identified and detail is provided on how Malaspina will work toward meeting each of these cornerstones. The first cornerstone is accessibility to the college's educational offerings. To ensure accessibility, the college will pay special attention to quantity, scheduling, location, architecture and special needs groups (M.C., 1983-a:5). The college has conducted an "environmental scan" and established a Task Force on Alternate Teaching Strategies.

The environmental scan (M.C., 1983-d:17) includes the demographics of the region; current educational services; educational services; regional industries and labour forces; labour market forecasts; special regional needs; restraints on meeting needs and federal and community response. "Highlights from the environmental scan include little change in the total number of 15 to 24 year olds, however, "skyrocketing increases in the number of 25 years and over group" that is projected to lead to increased demand for part-time opportunities for study (M.C., 1983-d:16). The number one and two industries of the region are forestry and tourism respectively, with modest but steady growth predicted. This may help the unemployment in the region which is slightly above 10% and close to 20% for youths. Labour market forecasts include increased demand in food preparation and several retail businesses including funeral services. However, one U.S. study used by Malaspina projects that by 1990 there will be a lowering of technical skills required of workers and a "solid general education" will be the most valuable preparation to meet the changes in the work environment.

The other significant development intended to address the accessibility cornerstone is the college's Task Force on Alternate Teaching Strategies (T.F.A.T.S.). Established in April 1983, the task force has a mandate to develop new strategies for Malaspina including cooperative arrangements with other institutions. There are seven members: one administrator, one support staff and five faculty. The committee is to report its recommendations to the president. The college's strategic plan (M.C., 1983-a:15) states that approaches to technological changes in information processing, including computer-assisted instruction and distance education, are to be started with "careful selectivity."

The second cornerstone for Malaspina is comprehensiveness. The comprehensiveness of the college's programming is driven by several categories of client and community need, and level of demand. The categories include the under-educated, academic and professionally-oriented students, vocational and technically-oriented students. To assist in determining what courses and programs of study will be offered, Malaspina uses the Canadian Occupational Forecasting Program for B.C. (COFOR) and the Forward Occupation Imbalance Listing for B.C. (FOIL). It would appear that the overriding factor in determining what will be offered is the amount of past community demand for a course or program.

Responsiveness to the emerging and changing needs of the community is the third cornerstone. To be responsive to the educational needs of the community, Malaspina has: established counselling and student advising on all four campuses including special services for natives and handicapped; established ongoing student and community-needs research; maintained close liaison with all levels of government and applicable government departments; and used community education programmers for quick design and implementation of courses. Fast-track is also intended to work cooperatively with business and industry to meet specific training needs. In addition, advisory committees have been established for the career programs and articulation meetings with other post-secondary institutions on transferability of university level courses.

Finally, the fourth cornerstone is to provide quality educational offerings. For Malaspina, the underpinning of quality (M.C., 1983-a:14) "is the excellence of the teaching faculty." A second ingredient, identified in the plan, is the excellence of the curriculum. To ensure that high levels of quality and excellence are maintained, the college states that it has a "rigorous evaluation system." However, no evidence of a rigorous evaluation system was found, although there is a faculty evaluation system in the academic and technical division.

From these four cornerstones and the statement of purpose, ten goal statements have been derived. The goals reflect the principles of providing educational services to all who request it "regardless of the individual's educational background." Acceptance of education as a life-long learning process is reflected in the goals by providing a wide selection of offerings during the day and evening at the core and satellite campuses. As a factor in both a regional and a global community, two of the college's goals incorporate the promotion of harmony among peoples of various cultures and to serve as a cultural centre for the region.

Adaptability may also be reflected in the degree of elasticity in collective agreements and policies and the existence of budgets or units for development and change of curriculum. In the M.C.F.A. agreement, an article titled "Home Campus" (M.C., 1983-b:8) requires the consent of the faculty member before a reassignment to another campus is made. The M.C.F.A. agreement also contains, in addition to the provisions for professional development activities, a letter of agreement on technological change. In the letter (M.C., 1983-b:77), the central issue is "the introduction of self-instructional prepackaged courses and courses transmitted live." A committee, consisting of two administrators and three faculty representatives, is to prepare a report within 18 months of the signing of the next collective agreement on how these technological changes could influence the role of faculty. The B.C.G.E.U. agreement has a similar article that addresses technological change requiring the college to make technological changes in accordance with the British Columbia labour code.

The fast-track training unit and the proposed development park (reported in Chapter Five) are two more visible aspects of Malaspina's adaptive subsystem that provides linkages with the external environment. Fast-track's ability to respond quickly to requests from business and industry with tailor-made programs, illustrates the college's interest in, and willingness to, adapt to the needs of the community. A development park would provide another means for the college to meet the changing needs of the community. The park is intended to provide a forum or centre in which cooperation and research can occur to help reduce the regional dependency on two primary industries.

The adaptive subsystem encompasses those activities undertaken by an organization to adapt to environmental changes that can effect the organization now and in the future. Typical adaptive subsystem activities would include planning committees or departments, research and development, the creation of goals and objectives, and linkages with the environment and community.

At Malaspina, the adaptive subsystem is integrated into each of the college's departments. The most common aspects of an adaptive subsystem were revealed during the interviews with staff responding to questions about the processes used to develop goals and the methods used to respond to requests from the community.

The community education department is very active in the adaptive subsystem. To link with the community, the department has developed several committees comprised of college and community representatives. The program advisory committees are comprised of relevant members of the community chosen by the program coordinator. The committee meets once a term to provide new ideas and react to proposals. One program coordinator for the community education department stated: "We look at and listen to just about anyone who is willing to provide input to determine what to offer." Additional sources of ideas for course offerings are from an annual review of calendars from other colleges across Canada and the United States.

Adaptive subsystem activity is also noticeable in the vocational division although, based on the interviews, it has been frought with problems. Emotions attached to the merger of the vocational school with the college are still active for many of those who were with the vocational school. In the words of one vocational division staff member: "We were forced into a merger with the academic college." Other comments that reflect the feelings include references to the number of support services that have moved "up the hill" to the new campus. For example, both the cafeteria and learning resource centre have been moved from the vocational division buildings up the hill to the new campus. Several staff complained about the inconvenience this causes for students in the vocational division: "A student cannot go into the new learning resource centre in his dirty coveralls and boots." In brief, the integration with the academic college has resulted in many vocational staff thinking that they and their students have not benefited from the merger.

Program and curriculum changes that have required adaptation by the vocational division staff have been the establishment of the fast-track training and the introduction of TRAC, which was imposed on the colleges by the government. Some of the problems in adopting TRAC were identified in the production subsystem. Many of the adoption problems are related to a lack of orientation and training of the instructional staff who are required to work with TRAC. The fast-track training unit is a key component of the adaptive subsystem. It has many of the requisite characteristics of an adaptive subsystem activity including direct linkages with community businesses and industries and the capability to start and stop its educational offerings quickly, in response to changes in the services requested. Furthermore, fast-track appears to have been accepted by the staff. The reasons for this acceptance by staff is the sense of ownership for initiating the concept and the opportunity that it provides for instructional staff to maintain professional linkages with the private sector.

The adaptive subsystem activities at Malaspina are influenced not only by the environment but also by the performance standards established for positions and departments. These performance standards are developed by the president in consultation with staff and normally would be considered part of the management subsystem. The importance given by the president to performance standards is such that the standards are incorporated with the goals and objectives for positions and departments. For example, fast-track has several goals that relate directly to the number of activities and the amount of revenue they should generate.

Another group of factors that influence the adaptive subsystem activities are special projects or assignments. Some of these activities may be initiated from the environment such as a change in government policy. Other initiating factors arise internally in the form of requests from a committee or an administrator to perform research or conduct a pilot test. One such request came from the president for the formation of an alternative teaching strategies committee to examine alternative strategies that could be implemented at Malaspina. The committee is chaired by an officer of the faculty association, with membership comprised of instructional staff representatives from each division. The committee has a mandate to make recommendations to the president on how alternative teaching strategies should be implemented at Malaspina. In addition, the president indicated that he had some discretionary funds that the committee could use should they recommend a pilot test or some developmental work.

The alternative teaching strategies committee has been in place for two years, but has not made any recommendations to the president. Two of the committee members interviewed felt that the committee "fell flat." One committee member stated that many of the members have a "feeling of fear and concern about job security" given the potential changes that could result from the implementation of alternative teaching strategies. The president expressed his disappointment calling the activity "a near total failure" and added that he felt the reason of the lack of action was that "most of the structure at Malaspina is historical and not conducive to innovation."

In summary, the adaptive subsystem at Malaspina is manifested in the numerous community-based committees, especially for the community services division and the fast track department. Attempts toward change, such as the alternative teaching strategies committee, have not resulted in any action toward the implementation of alternative teaching strategies. There is still considerable resentment toward the merger of the vocational school with the college, especially from many vocational division staff who feel they and their students have been relegated to a second class status in the college. Finally, Malaspina, like other British Columbia colleges, has had to adapt to operating within a reduced operating budget which, for the most part, has made the staff cautious about accepting new ideas and change.

Managerial Subsystem

The managerial subsystem of an organization is responsible for the controlling, coordinating and directing of activities for all subsystems. To describe the functions of the managerial subsystem, it is necessary to understand the decision-making process, how policy and procedures get approved and used, the role of various management positions and the techniques utilized to provide direction and motivation, and how performance is assessed. Organizational documents related to the managerial subsystem include organizational charts, employee contracts, policy manuals, annual reports and position descriptions.

Participation in management decision making is common at Malaspina particularly for faculty who are actively involved in matters pertaining to course content, instructional techniques and resource materials. Faculty, in consultation with peers and divisional administrators, are the content authorities for development and changes to curriculum and instruction. The governance process is also participatory through divisional representation on committees, public advisory committees, faculty input in such management subsystem activities as the establishment of standards for educational offerings, professional development, faculty evaluation and program evaluation.

There is provision for participation by faculty and instructors in the selection of administrators and faculty. The selection of area chairman is addressed in the M.C.F.A. agreement (M.C., 1983-b:25) and requires that a candidate for the area chairman position be recommended by the faculty of the area. Furthermore, should the president not approve the recommendation, he must meet with the faculty and present his reasons for not supporting the recommendation.

Representation for vocational instructors on committees to select the dean and assistant dean of the vocational division, the college president, and department heads and chief instructors is included in the vocational instructors' collective agreement (V.I.C.A.). The union is to be consulted before representatives are appointed to any selection committee with the bargaining unit actually selecting the representative (M.C., 1981-b:9). No mention is made regarding the selection procedures for instructors in the V.I.C.A.

The M.C.F.A. agreement has provision for member representation on area workload committees that prepare workload schedules for their respective areas then forward them to the dean for approval. Both collective agreements allow for the member to refuse an overtime/overload assignment.

There are two policy manuals, the college policy and administrative directive manual for college-wide use and the academic and technical division procedures manual for divisional use. The college manual (M.C., 1982-b) is organized into four discrete policy sections: board, finance, personnel and administration. Within the board group, there are policies covering the purpose and goals of the college and the role and procedures of the board. Of particular interest are the two policies pertaining to standing committees of the board that illustrate the role of the board in the management subsystem. Two such board committees are finance and property committee and personnel and program committee, each have five board members.

The finance and property committee is responsible for reviewing and recommending policy changes to the board in all matters related to the financial and physical resource management of the college. The personnel and program committee also has a review and recommendation role, except they focus on human rather than fiscal resources of the college. The areas of responsibility include labour relations issues, staff development, negotiations and, in the program area, recommending admission criteria and reviewing the requirements for diplomas and certificates awarded by the College. These board committees meet prior to the beginning of board meetings.

Policies within the finance section of the policy manual detail the procedures to obtain approval for expenditures. The approval levels relate directly to the four levels of management within the college and are delineated in Policy #2000.0078. There appear to be few, if any, expenditures that can be made by a faculty member without prior approval from at least the area chairman level.

Policies in the personnel section of the policy manual describe the rights and obligations of both the staff member and the college on items such as travel expenses, recruitment and appointment of college staff, jury duty and bereavement leave. The administration section of the manual appears to be a catchall. For example, there is a policy on special occasion liquor permits and the most detailed policy in the entire manual pertains to fire and other emergencies (M.C., 1982-b: 4000.0105).

The academic and technical division procedures manual (M.C., 1983-c) provides staff in the division with details of the approved procedure for a variety of academic, personnel, and fiscal matters. Included in the manual are procedures pertaining to advertising for new staff, ordering textbooks, scheduling and cancellation of classes and the assignment of faculty workload. The manual also outlines the roles and membership of the divisional committees. One of the standing committees is the management committee whose role is to advise the dean with the clarification given that advising is not to be confused with decision making.

In summary, the policy and administrative directive manual is a comprehensive document containing approximately one hundred policies complete with statement, procedures, recommendations and cross references. All staff members have access to a manual although they are not necessarily given their own copy.

In the two policy manuals reviewed, at least two areas of academic management were not included. First, there is no mention of how academic matters such as course revisions, deletions and additions are to be handled. Second, there is no reference to course and program evaluation, or to grading and student appeals.

The interviews provided an opportunity to acquire additional information about the actual management practises not described in college documents. For example, two positions that were not fully described in the college documents were the positions of chairman and coordinator in the academic and technical division. Based on the interviews with the area chairmen, more complete descriptions were developed.

There are four area chairmen in the academic and technical division. Each chairman position is normally 50% administrative and

50% instruction. Chairmen are selected by the faculty of the area and are given a two-year appointment which can be renewed once. There is no additional remuneration paid for the position. Working with the area chairmen are program coordinators, who have responsibilities for a single academic subject or program.

Coordinators receive no additional pay for the position nor are they given any release time from their teaching responsibilities. The coordinators' primary tasks are to assist the chairmen with various administrative tasks such as textbook ordering, maintaining an inventory of supplies and preparing faculty workloads.

None of the area chairmen interviewed felt they had any real administrative power, given that both budgeting and staffing were decided at the dean level or higher. However, all area chairmen interviewed felt that their most important role was as a communication linkage between faculty and the dean's office, particularly on contractual matters.

A secondary role, identified by the chairmen, was as an advocate of the area's interests at weekly area chairmen's meetings. Within the instructional process, the main task of chairmen is to maintain the quality of course offerings through appropriate curricula and competent faculty. The curricula of courses are normally developed through articulation committees (in the case of university transfer) or by industry standards (in the case of trade and paraprofessional programs).

Evaluations of faculty are conducted by the dean who distributes the forms to students and then conducts an open-group session with them asking for feedback beyond the questionnaire. Area chairmen are invited to attend these sessions with the intent that they are there to substantiate the reported findings of the evaluation. It should be added that the evaluation system was generally considered, by instructional staff interviewed, to be a evaluation for administrative purposes rather than a formative evaluation that could be used for developmental purposes. Three faculty members commented on how unprofessional they felt the evaluation process was and, in particular, the practise of the dean meeting with a class of students to discuss an instructor's performance without the instructor or a faculty representative present.

The equivalent positions to chairman in the vocational division are the chief instructor and department head. These two positions function more closely to the position descriptions provided in the college documents. The incumbents that were interviewed did not express views similar to chairmen regarding the limitations of their managerial authority, although their position descriptions did not appear to give them more authority than a chairman.

One chief instructor described her management style as "consultative." Another, indicated that the majority of communication with staff was verbal and regularly occurred in one or other of the two staff lunch rooms. The frequency of meetings with staff ranged from weekly to ten times a year. The chief instructor who used the lunch room approach actually met informally with staff every other day by alternating between the two lunch rooms. During the interviewing of the vocational division administrators, interviewees stated that the communication on management items was conducted verbally, with regularity and in an informal manner. For example, the associate dean described his approach to communications as "open door" in that he did not call formal meetings, but rather encouraged staff to drop in to meet with him at their convenience when they had an issue to discuss. This informal approach and openness to communicate is a trait of several administrators including the president.

The president's openness in communicating to staff of the college was reflected in his candor about his approach to managing the college. He described his two most important management functions as "setting the organizational climate" and "establishing performance standards." Setting the organizational climate is accomplished by recognizing that "because of the diversity of interests and abilities of staff, it may not be possible to have a single work ethic." To establish the organizational climate, he works with small groups of staff "enabling them to go from the idea stage into the implementation stage as a matter of regular course." The president encourages ideas to flourish by providing financial and policy support. In addition, the president stated he has supported ideas through direct discussion and by developing strategies with staff using his "institutional authority by being present at certain meetings." He indicated that he tends to be supportive of the innovative and exploratory initiatives of staff.

Another management function identified as important by the president is the establishment of performance standards for all sectors of the college. The president stressed that there is a "tremendous variety of activities within the college with different values that tend to work against the establishment of performance standards." He considers his role, as president, as being one to "pull the values together," to ensure that the performance standards address the overall goals and objectives of the college.

A significant component of the managerial subsystem at Malaspina is the Program Advisory Committee (P.A.C.). The purpose of P.A.C. is to provide a forum for discussion on items related to the academic offerings and to subsequently forward recommendations to the executive officers. This committee started as the President's Advisory Committee but was renamed to more accurately describe the purpose of the committee. The committee members include the executive officers and faculty representatives drawn from each division. Meetings are held every second week, alternating with the Executive Committee meeting attended only by the executive officers. Members of P.A.C. felt that their committee had lost its decision-making ability and some members added they have wondered about the value and purpose of the committee. Even the president conceded that when the college was small "the committee had more of a decision-making role, however now most of the decision making is done through line positions."

The lack of a decision-making role for P.A.C. was of concern to several of those interviewed. Several faculty members indicated that the issue of the inability of P.A.C. to participate in the decision-making process had been discussed at faculty association meetings. Interest in the role of the committee is high because some of the faculty consider it to be the only college-wide forum in which there is input from faculty on major academic matters prior to decisions being made. According to one faculty member who is on the committee, the "real problem" with the modus operandi of the committee is that "one cannot make a motion in a meeting, therefore the committee does not have the ability to make formal recommendations to the administration." However, the preception by some faculty that there are no opportunities for input into the decision-making process is inconsistent with the open approach to communication and the numerous college committees with membership from college constituencies.

In summary, the interviews revealed a managerial subsystem that is generally less formal and more flexible than indicated in the college documents. The open access to communication lines between staff and administrators is a distinguishable characteristic of the managerial subsystem, although there is a feeling that communication from staff may not be given much consideration in the decision-making process. The candor that was exhibited by those interviewed supports open communications and suggests that administrators are not perceived as comminatory. In addition, the accessibility of administrators to faculty, particularly the associate dean and dean of the vocational division, is further evidence of an open, informal approach to communication.

Maintenance Subsystem

The maintenance subsystem encompasses those activities pertaining to the upkeep and servicing of the equipment used in the production subsystem. Having noted earlier that the key "equipment" of the production subsystem of a college is the instructional staff, the maintenance subsystem of a college includes those activities intended to support and maintain faculty and the instructional process. The maintenance subsystem of a college can be considered to consist of three functions:

1. Direct instructional support services.
2. Indirect instructional support services.
3. Staff development opportunities and activities.

Direct instructional support services include instructional design, research and development, media production, computer services and learning resource materials. Indirect instructional support services include scheduling, student records, student counselling, study skills services, program advisory committees, curriculum committees and facilities maintenance. Staff development opportunities are delineated in the policies and the employment contracts. There is provision for funding and other support to faculty seeking to further their expertise in a subject area or improve their skills as an instructor.

At Malaspina, the direct instructional support services include an audio visual department, computer services and a research officer. The audio visual department produces and distributes media materials and equipment and services instructional equipment. The department is located on the Nanaimo campus although it provides services to all campuses. To meet the media equipment and production needs of the part time instructor, the Nanaimo Campus office is open to 7:30 p.m. Evening hours for the service departments appear to be contingent on the stretching of limited budgets that are used to meet the daytime needs first.

The computer services department provides a student record system, library circulation system, financial records system and provides consultation services for instructional staff wanting to use either computer-managed learning (CML) or computer-assisted learning (CAL). There is telecommunication equipment linking the Powell River and Duncan campuses to the main frame at the Nanaimo campus for the transmission and reception of data, although, to date, this service has been used only for administrative purposes to communicate finanical data and student records.

In the college documents reviewed, no reference was made to any instructional design services nor any funding dedicated to instructional development activities. The research office, based on the 81/82 annual report, appears to focus on preparing obligatory statistical reports for the province. Limited documentation was available pertaining to needs assessments of the community or surveys of the employment of graduates. Student counselling services are available at each campus with a requirement that every first-year student meet with a counsellor.

The procedures pertaining to staff development are outlined in the collective agreements with the instructional staff. The faculty in the academic/technical division (M.C.F.A.) have support for several types of professional development. First, each regular faculty member is entitled to receive a minimum of $35 for the payment of membership fees in professional or learned societies and a minimum of $215 for developmental activities approved by the area chairman. Second, the faculty association is provided with a minimum of $4,500 for the sponsorship of activities to the general faculty. Third, sufficient funds are provided to support six full-time, twelve month, professional development leaves at a minimum of 60% of regular salary.

Assisted leaves for professional development are provided in "order to maintain an excellence of instruction within Malaspina" (M.C., 1983-b:34). After three consecutive years of service, a member is eligible for assisted leave of no less than 60% of salary. Faculty can be granted either assisted or unassisted leave based on their seniority within the faculty and the approval of the leave committee which is comprised of five faculty representatives and three administrators.

The primary use of professional development funds by the academic division faculty is to attend transfer course articulation meetings with provincial universities. This approach to professional development is directed more at the curriculum than at the individual faculty member, although the interaction at the meetings with peers who are teaching similar subject matters was considered by those interviewed to be of considerable value. Several faculty felt that at such meetings there was often a more open exchange of ideas among colleagues from other institutions than among Malaspina faculty. Faculty described the primary value of the articulation meetings as an opportunity to establish linkages with faculty from other institutions. Furthermore, the camaraderie and professional relationships that developed were important factors in committing professional development funds for future articulation meetings.

Professional development activities for vocational instructors (M.C., 1981-b) are described in terms of various types of leaves. Professional development leave with full pay is available for the completion of the instructor's diploma. The diploma is offered by the Ministry of Education and is available to all faculty in British Columbia's post secondary institutions. This course is normally offered during the summer months in Vancouver. In addition, leave with full pay is normally granted for other short-term activities such as conferences, workshops and in-service programs in the vocations. Although not classified as professional development activities, time off and leaves without pay or loss of benefits are provided for participation in union or public duties.

Based on the interviews, the most popular developmental activity was to participate in the instructor training and certification program that was offered by the provincial government. The program is normally taken during a summer using a combination of vacation and leave time plus a subsidy from divisional funds. For many of the vocational division staff, the completion of the instructor's program represented certification as a teacher and job security in teaching, although there is no written agreement that equates the certificate with a form of tenure.

Although the vocational division staff interviewed considered the instructor certification program as the primary professional development activity, very few of the academic and technical division staff interviewed had even considered taking the program. When asked why they had not used their professional development funds to obtain the certification, many responded by stating they had been exposed to a variety of instructional techniques during their university education (the faculty average was a master's degree) and felt there would be minimal benefit in spending time and money on such an activity.

The professional development opportunities are documented in the appropriate collective agreements with a delineation of the eligibility and process to access the funds. However, it is once again important to note that the differences between the two collective agreements result in considerable differences in professional development opportunities in the two instructional groups. The contracts indicate more funds for professional development to members of the faculty association (M.C.F.A.) than for members of the government employees union (B.C.G.E.U.). During the interviews, it was revealed that some of the documented differences are balanced through the discretionary use of other funds by vocational division administrators. Examples of other means of funding professional development activities include using divisional travel budgets, revenues generated from project activities and contingency funds (when available) from the dean or president to underwrite professional development activities.

Job security is addressed in both agreements with clauses on seniority. Within the M.C.F.A. agreement (M.C., 1983-b:63-66), the criteria used to reduce the number of staff are based on years of service and part-time versus full-time status. Faculty who are part time are laid off first followed by members with less than four years of service. The B.C.G.E.U. agreement (M.C., 1981-b:21-23) for vocational instructors makes reference to "bumping rights" that gives those with the most seniority the right to be the last laid off and the first to be recalled. As noted earlier, seniority is also used for eligibility to professional development leaves in both agreements.

The vocational instructors' agreement has a unique article (M.C., 1981-b:53) that addresses personal employee problems such as employee assistance program, it is intended to help employees obtain assistance at the earliest time to minimize the effects on home life and work. The program operates on a voluntary-referral approach with the option to upgrade to mandatory referral if unsatisfactory job performance persists.

Another aspect of the maintenance subsystem is the clerical support service. The clerical services available to instructional staff are limited by the number of clerical support persons: an average of one clerical person per every twenty five instructional staff. Several faculty interviewed commented on the need to increase the clerical support to minimize the time spent by faculty performing clerical duties.

In summary, the maintenance subsystem at Malaspina provides support services to instructional staff such as media production and equipment, computer services, and clerical support. Provision for professional development is more fully articulated in the M.C.F.A. agreement than in the B.C.G.E.U. agreement. Attention is given to job security in both collective agreements including intricate seniority, grievance and appeal procedures.

NORTH ISLAND COLLEGE

Production Subsystem

The functioning of North Island's production subsystem can be described in terms of the college's approach to providing educational services and the terms and condition of employment for staff.

North Island's open learning system approach to providing educational services is the major influencing factor in the functioning of the production subsystem. Open learning is operationalized via individualized learning materials, small group tutorials, limited scheduled classroom instruction, educational television through open broadcast, and significantly reduces the faculty member's role as the primary vehicle through which course content is disseminated. Instead, the course content is packaged in a variety of media formats complete with a pacing schedule freeing the faculty to perform a tutorial function by assisting the learner when the learner needs help and managing the learner's progress through the course.

The open learning system approach practised at North Island gives students the responsibility for managing their learning. The concept requires the student to be the primary decision maker regarding his work schedule and rate of progress through a course. This philosophy is put into practise by having a student meet with a tutor to establish a course schedule based on the student's time constraints and abilities. The resulting schedule may be viewed as a contract between the tutor and the student. Changes to the agreement are permitted and attendance at such activities as pacing seminars is optional and tutors are continually reminded that the student should decide his own schedule. This approach to student independence is intended to place the responsibility for learning with the student not the tutor. The principal's position on this philosophy is captured in the following statement from his paper on institutional mutualism: "The tutor's job is not to foster a dependency relationship with the student but to encourage the student to become an independent learner" (N.C.I., 1980-b:6).

Two distinguishing characteristics of the production subsystem gleaned from college documents pertain to the employment of faculty. First, there is no faculty association or union and no collective agreement specifying terms and conditions of employment. Second, all faculty are paid at the same rate regardless of academic qualifications or experience and are given one-year contracts.

There is no faculty association or documentation of faculty workload, selection and appointment procedures, and other items normally present in employee agreements and contracts. Alternatively, there is a fair comparison system and a board-approved role description for tutor/instructors. The fair comparison system is basically an agreement by the board to work with representatives from each category of employee (e.g. director, faculty and support staff) to establish the salary and benefits for each category of employee. A comparison is made of the salaries and benefits of other colleges in the provincial system to establish a fair salary. Salaries at North Island are based on work performed, rather than on a combination of experience, and qualifications. Under the fair comparison system, a first year faculty member with a master's degree receives the same annual salary as the faculty member with a doctorate degree and eight years of experience. There is provision for an interest arbitration in the event of a dispute.

North Island uses a one-year term, renewable contract for all faculty. The one-year term is intended to give maximum flexibility to the production subsystem by enabling the college to retain or eliminate faculty positions based on the demand for services in the community. The faculty member is given an annual evaluation that relies heavily on student input to assist management in deciding whether or not to renew the member's contract. In brief, one-year term contracts appear to provide limited job security for faculty while allowing considerable flexibility in staffing the production subsystem.

The production subsystem is also influenced by an open registration that permits a continuous intake of new students. Each time a new student registers in a tutor's course, the tutor meets with that student to orient him to the open-learning concept and/or the course materials. In short, although the assigned course load can be set for the year, the number of courses is linked to the demand in the community and a continuous student intake. This can result in a fluctuation in the number of students tutored by a faculty member in a given year from 100 to 200.

One aspect of the production subsystem that was not included in the college documents reviewed was the completion rate of students. Data were not available to confirm the comments by staff that the completion rate was as low as 10 percent in some courses. Instructors indicated they were aware that the attrition rate was high, however, felt that regular, compulsory meetings with students could reduce attrition. The problem in scheduling compulsory meetings with students is that such a practise would be at odds with the college philosophy that student meetings with a tutor are voluntary. The voluntary approach is intended to give the student more responsibility over his learning experience. Several tutors indicated frustration with this approach in that the students who often need help are reluctant or lack the confidence to take charge of scheduling their course work. To respond to the problem, pacing groups were established. Pacing groups are open-help classes (attendance is voluntary) that are regularly scheduled: normally twice a week.

The staff interviewed seem committed to the instructional approach with several staff expressing that they felt it was the only way to provide a service given the geography and demographics of the region. The workload for faculty is heavy with long hours required in order to meet the needs of the students. There is some minor frustration with the independence afforded the student through the learner centered packaging of course materials. Faculty felt they had more discretion on academic matters than was revealed by the questionnaire, although not having expertise in the subject matter of the courses for which they were a local tutor was a limitation.

In summary, the production subsystem at North Island has several major features, namely: an open learning system; students are responsible for managing their learning; emphasis is on learning rather than teaching; the role of the faculty is as tutor; there is no faculty association; and faculty contracts are for a one-year term.

Supportive Subsystem

The supportive subsystem is responsible for the recruitment of students, the placement of graduates, and obtaining the necessary fiscal resources with which to work. These functions are not, as noted earlier, normally located within discrete departments. At North Island college, the supportive subsystem functions are dispersed to several areas within the college coordinated by the principal.

The recruitment of students was considered by staff to be a priority activity for all staff. Students are actively recruited from all the communities in the region served by the college. Actual recruitment of students is done through advertising in community newspapers, radio commercials, mailing out of printed materials to high schools, brochures and pamphlets, and visits to local learning centers.

Advertising through newspapers and radio is limited due to the cost, although the local newspapers and radio stations do carry public service announcements about college events. High schools are mailed information with no follow-up action taken by the college. There are numerous brochures promoting offerings and outlining the approach to accessing college courses. In one brochure titled "What a high school teacher or counsellor wants to know about North Island College" (N.I.C., 1984-b), more than half of the content is used to explain the open learning system and the role of the tutor at North Island. In addition, the brochure contains seven reasons why university-bound students might prefer to start at North Island, with particular attention to the cost savings and the quality and flexibility of the delivery method. Included in recruitment activities is liaison with the region's high schools, although considerable emphasis is given to attracting the part-time adult learner. The college does not have a public relations office or equivalent and as a result, local advertising is the responsibility of the center directors with system wide material being approved by the principal.

Recruitment of students at the local level is dependent on prospective students dropping into the local center to pick up college brochures and talk with the duty tutor. Advertising and promotion of college offerings is the responsibility of the local center director who makes modest use of local media outlets for advertising. A primary vehicle for advertising and marketing appears to be by word of mouth within special interest groups and community organizations. This approach, according to one center director, works well and is in keeping with the grassroots approach of the college in responding to the community. The small population base in most of the communities of the region enables the college learning centers and mobile units to have a high visibility in the community. This "high visibility" is considered by one administrator to be a major factor enabling the "street level" communication between the college and the residents of the region.

A profile of a typical student was given by the director of academic programs as: "32 year old female, from a small community, with an interest in improving her life style, while retaining her job and commitments to her family. The director added that the number of "[illegible]9 year old, recent high school graduates entering the college is in the minority."

There is no office or position of registrar at North Island. The director of management and student information systems has responsibility for registration, student records, and collection of fees. The duty tutor and center office staff handle the initial inquiry for registration and the subsequent process of the completion of forms. Registration data are then forwarded to the administration center where student records are maintained.

A key feature of the supportive subsystem identified by several administrators as distinguishing North Island from other colleges is the registration process. The registration process provides the opportunity for students to register in and commence courses at any time throughout the year. Described by staff as an "open entry" and "continuous entry" process, it was considered to be a positive feature in attracting students to North Island. Instructional staff admitted that there are some frustrations with a continuous intake of students, however, conceded that it was a necessary process given the delivery system and the population of the region. Concomitant with the year-round registration is the lack of formal academic admission criteria.

North Island has established a credit coordination service with Athabasca University (Alberta) that enables students to complete a bachelor of general studies degree without leaving their community. This arrangement permits a student who earns credits at North Island College and other post-secondary institutions including Athabasca University, to apply for the degree. The arrangement is further augmented by the dual registration agreement for first and second-year courses that permits North Island College students to take courses at either institution while being registered at both institutions. The concept of dual registration has also been explored with the Open Learning Institution, however, no such formal arrangement has been documented.

The other major raw material acquired through the supportive subsystem is operating and capital money usually in the form of grants from the province. The strategy outlined by the principal to obtain the necessary funds depends, in part, on presenting a case for the "downstream cost" of North Island. The principal considers the "downstream cost" argument important, as it suggests that the high costs of initial course development or purchase should be amortized over several years, thereby more accurately illustrating the cost effectiveness of the North Island approach to instruction. To be included in the cost effectiveness is the increased productivity from faculty as reflected by their workload, which the principal openly challenged other colleges to match.

Funding for the college is primarily from the province and is distributed by the ministry of education. Requests for funds are made through the board with the principal and the board chairman as the spokesmen. The current principal is active in corresponding (N.I.C., 1982-c) with government officials, particularly to the assistant deputy minister, regarding the funds that are given to system-wide agencies such as the Open Learning Institute and Knowledge Network that limits funding to the individual colleges which want to utilize alternative approaches to instructional delivery. However, the process of acquiring funds to operate is more directly related to student numbers and previous year allocation and expenditures. This is similar for most of the colleges, although the uniqueness of North Island's approach to instruction and the large number of part-time students requires special consideration.

The principal expressed concern over the impending changes to the province's formula to fund colleges. At the center of this concern is the enrollment-driven funding based on full-time students and the offering of a "core" of programming. Both of these factors would "work against serving the needs of the communities served by North Island" (N.I.C., 1983-a:2). Funding, according to the principal, should be determined by "asking what the community needs" (N.I.C., 1983-a:3). Getting provincial government officials to understand the uniqueness of the regions and to adjust the funding formula appropriately is a major objective in the principal's approach to acquiring fiscal resources and was clearly a major source of frustration to him.

Input by staff into the bugeting process is limited to directors who are responsible for identifying needs to the principal who in turn uses them to create a college budget for approval by the board and subsequent submission to the provincial government. The coordinator of research and development provides background information to the budget such as how many students, where they are, and the best way to deliver to them. There is a natural overlap between the supportive and adaptive subsystems with the use of research data to support requests for funding and planning for the future.

Adaptive Subsystem

Two key documents that provide insight into the adaptive subsystem of North Island College are the Strategic and Operational Plan (five year plan) and the Annual Report 1982 - 1983. Additional information has been gleaned from college calendars for the past four years, several college brochures, the position description of the coordinator of research and development, and interviews with staff.

The strategic and operational plan (N.I.C., 1983-a) was prepared in response to a provincial ministry request that all colleges develop a plan of action for the next five years assuming that there will be no increases to the base-operating grants except for a minor percentage increase to cover the cost-of-living adjustments to salaries.

The plan contains the action to be taken to survive until [illegible]988 and also presents a compelling argument for maintaining the open learning system approach to provide educational services to the region. Care has been taken to explain how North Island College's mission to deliver educational services is appropriate to the unique demographics of the region. The uniqueness of N.I.C.'s approach to the delivery of educational offerings is claimed to give "new expression and meaning to the requirement and intent of the Colleges and Institute Act" (N.I.C.,1983-a:1). Further, conventional measures of productivity used by the ministry such as section size and number of sections per trimester are not adequate to report the activities such as open learning and continuous intake of students. Alternatively, more suitable productivity measures would include the "distribution of services, penetration of communities and participation rates...." (N.I.C., 1983-a:2).

The action plan for the next five years is presented in the plan under the headings of goals, objectives and strategies in areas of governance, comprehensiveness, quality of courses, programs and instructional support services, occupational and manpower development, life-long learning, accessibility, cooperation for social development, and accountability.

The system of governance used in the college since its opening has been retained in the plan to address the issues to 1988. The role of the board as policy maker and decision maker is to be preserved. Strategies remain virtually the same and include monthly meetings of the board, meetings of the fair comparison committee as required, quarterly meetings of the course and program articulation committees, and regular meetings of the center staff and advisory committees. Changes to curriculum and the addition and/or deletion of courses are discussed at the articulation and advisory committees. These committees have recommending powers with approval of recommendations made by the directors of academic and vocational programs and the college principal.

Comprehensiveness of offerings is a goal that is to be maintained and expanded by building on the current menu of offerings. Some of the strategies to be employed include new course materials from other institutions, particularly those which are actively engaged in distance education, dual registration of students with other post-secondary institutions, and by requesting new programming funds to increase the number of TRAC offerings.

Quality of courses, programs and instructional support services is identified as an important goal and is described in considerable detail (N.I.C. 1983-a:39). Also, the current heavy workload of tutors (e.g. 30 hours per week in a centre/[illegible]2 courses/[illegible]00 to 200 students) is delineated in the plan with the conclusion drawn that the ministry's request for increased productivity is not applicable to North Island. Strategies indicated to achieve this goal include maintaining and expanding the linkages with other colleges and agencies to "acquire courses of high quality from other jurisdictions concentrating on offering a high quality of human service in the support of such courses" (N.I.C., 1983-a:40). This strategy is consistent with North

Island's approach to not create their own course material but rather to acquire elsewhere and modify to meet the needs of the region.

Occupational and manpower development is to be attained by consultation with the region's five Canada Employment and Immigration Centers and with neighbouring colleges. Economic and demographic information from external agencies has been used extensively in the plan and is used to outline the occupational and manpower development strategies for the next five years. Best/worst scenarios on the economic outlook have also been used to assist in developing the strategies for this goal.

Life-long learning is a fundamental goal for the college's mission and is articulated as a goal (N.I.C., 1983-a:50-5[illegible]) to remove "systemic barriers" to adults seeking post-secondary education. The adaptive subsystem is reflected in the strategies to advertise and market the college's offering to all families in the region, including visits to target groups such as senior citizens in retirement facilities. There is also an objective to communicate regularly with the members of the region by asking for feedback on current educational offerings and what residents would like in the future.

Accessibility is another goal that appears fundamental to the mission of the college and is stated as striving to (N.I.C.1983-b:53) "provide both the maximum and the most equitable access to post-secondary learning opportunities for individual adults in the communities of the college region." The primary strategy to attain this goal is to locate instructional resources in "small" communities.

The goal of cooperation for social development is to be actualized by working with Indian bands, libraries and departments of recreation and special population groups such as the mentally retarded. This goal, like many of the preceding goals, will require all staff to reach out beyond their own subsystem and the college into the environment as a member of the adaptive subsystem.

Accountability will be to the public through the board and the ministry. Specifically, the college will comply with the request for reports and operate in an educationally sound and fiscally responsible manner. Additional goals include enhancing the lifestyle of the inhabitants of isolated communities and making the resources of the college's learning centers available to all members of the region whether or not they are enrolled as a student.

A review of the college's annual report 1982 - 1983 revealed that many of the goals articulated in the plan have been in place for several years. This explains the use of terms in the goals, objectives and strategies such as "to maintain" or "to continue to." The annual report also confirms, with data, the importance placed on participation rates by residents of the region.

Another characteristic of North Island's adaptive subsystem is the position of coordinator of research and development. The coordinator is a staff position reporting directly to the principal. Included in the list of responsibilities are completing research and development tasks assigned by the principal, developing methods to develop and appraise tutoring, monitoring the use of learning materials, and the previously mentioned searching for new materials and adapting/developing learning materials. The coordinator is also required to participate in course articulation meetings and maintain regular contact with the five function directors.

The acquisition and adaptation of courses from other institutions such as Coastline Community College, Athabasca University, and the Open Learning Institute is another adaptive subsystem characteristic of North Island. The willingness to use courses from elsewhere is evident in the college calendar, the college objectives, and in several papers written by the principal. The use of one-year appointments for staff would seem to permit the college to make major changes to staffing without the usual concerns of laying off tenured faculty or lengthy grievance procedures. This characteristic of North Island would seem to allow the college to adapt, relatively quickly, to changes in demand for courses and programs. However, the apparent lack of job security may also influence the long-term commitment of staff to the college.

In summary, the college's mission statement and goals are oriented to adaptability and change to meet the needs of the adult learners of the region. The use of courses from other institutions and research in the form of environmental and demographic scans of the region are evidence of an active adaptive subsystem. A maximum one-year contract and no faculty association provides considerable latitude in making changes to staffing. However, no documentation was available to indicate major change has occurred or that there are fiscal resources to support significant change or adaptation activities.

The primary participants of the adapative subsystem at North Island are the administrative staff and, in particular, the director of academic programs, coordinator of research and development, and the principal. A planning process has not been formally established in the college except for the plan submitted to the government, and the establishment of a research and development office.

Both the mission statement and the objectives of the college emphasize maintaining the current open learning system. Staff comments in favour of the status quo include: " How we do things now is the best fit given the geographic and economic factors of the region." The changes presented in the plan are changes the provinical government should make in their methods of counting students, distributing funds, and assessing the effectiveness of colleges.

The coordinator of research and development indicated that his one-man office tended to focus inward on "courseware - looking for new instructional matters and adapting them for use at North Island." He felt that changes to packaged courses could be made at the local learning centre using "common sense", adding that he did "not rely heavily on paper feedback" to make changes. When asked about research pertaining to the success of the instructional approaches used, he indicated that there had not been any formal research conducted by the college to measure the effectiveness of the tutorial method used at

North Island. Also, he stated he was "worried about the lack of research on the completion rate of courses by students."

The course and subject-matter articulation meetings provide another forum in which change is discussed, albeit limited to the curriculum and support materials of individual courses. The meetings are described by faculty as being "loosely structured and providing a valuable opportunity to discuss with peers current issues in our discipline." Faculty felt they had considerable discretion in making changes and for dropping and adding courses. The impression one gets in talking to faculty about changes to courses is that they tend to make changes frequently based on the needs of the learner. However, decisions made in the articulation meetings are normally forwarded to administration for approval. This process is in keeping with Katz and Kahn's expectation that the actual decision and subsequent implementation of change are the responsibility of management.

Managerial Subsystem

The organizational characteristics of the managerial subsystem are based in a board document titled Organizational Structures & Relationships (N.I.C., 1980-a). The document contains an overview of structure and relationships and links them to the college's philosophy. Also included are definitions of the various levels of authority and a role description for all positions in the college.

The college's philosophy of "open learning", "distributed services," and "community based" concepts of the college are said to require "the development of an appropriate organizational structure" (N.I.C., 1980-a:2). Furthermore, it is stated that the best structure for this mix of community-based delivery with an appropriate level of board control is not self-evident. As a result, the management system of the college was developed using two basic principles.

The first principle is that the central administration would not be housed within any community learning centre. Second, that several primary functions common to all learning centers would be centralized. Included in the list of centralized functions are (N.I.C., 1980-a:3): all financial matters; all academic programming; all vocational programming; the acquisition and allocation of all instructional materials; all management information systems; enrolment reporting; student records; and all staffing requirements and personnel selection.

Based on these aforementioned principles, the resulting managerial subsystem is guided by four concepts as defined by the principal (N.I.C., 1980-a): structural authority (described in Chapter 6); responsibility; accountability; and sapiential authority.

Responsibility is used to describe the relationship between the principal and any other position. Accountability is used where a "higher position has the authority to command, to expect obedience but NOT to punish (beyond admonition) for failing to obey" (N.I.C., 1980-a: 7). The principal is the only position that can administer sanctions for failing to obey (N.I.C., 1980-a:7). Sapiential authority is defined as "the right to be HEARD by reason of knowledge" (N.I.C., 1980-a:7). These terms are used in the position descriptions to delineate the parameters of specific functions and to specify relationships between positions.

For example the center directors are responsible for assessing the educational needs of the adults in the communities served by the center and to provide appropriate responses to these needs, supervising the staff of the center, and working with other directors to utilize centralized services.

The board is identified as the top management in the fair comparison system (N.I.C., 1979). Although they are not assigned a grade level for compensation, they do receive an honorarium and are reimbursed for their expenses. A primary role of the board is to establish college policy although no college policy manual has been produced. As an alternative to a policy manual, there are numerous board memoranda addressing specific topic areas that are considered by some staff to be college policies. The board publishes its monthly meeting agenda in the local newspapers at least ten days in advance of a meeting. Members of the community are invited to submit additional items for the agenda and to attend the meeting. College staff may place items on the agenda by presenting them in writing to the bursar.

Budgets are controlled centrally, with no funds distributed to learning centers. Accordingly, all materials and capital acquisitions are handled through the central office.

From the review of the documents, it was evident that North Island had a flat organizational structure and the concise statements on accountability and responsibility of staff issued by the principal indicated a centralization of the managerial subsytem. Furthermore, the questionnaire results suggested there was limited discretionary opportunity for faculty to make changes to curriculum and instructional techniques.

The interviews produced a range of comments on the managerial subsystem that tended to contradict one another. For example, one new faculty member who had previously worked in another college felt he had been "liberated" because he was "tired of committees slowing things down." Alternatively, others commented on the lack of opportunity for input by staff before decisions are made. The lack of formal opportunities for input was interpreted by one staff member as not recognizing the professional status and skills of staff. Other aspects of the managerial subsystem for which there are diverging views include the use of a policy manual, internal communications, the selection and evaluation of staff, and employee compensation.

North Island does not have a policy manual, however several staff said there was a manual, adding that they have not personally made use of it. One faculty member, who said what the college "lacks is a unified approach in dealing with issues" suggested that the situation could be corrected if a policy manual were developed and used. One director stated "there are policies, however, they are not written in any one manual." He felt that college board resolutions and subsequent amendments were policy statements. Many issues are apparently handled at the local level without referring to policy.

Overall, as noted earlier, the lack of an official policy manual was not perceived as a disadvantage by staff or administrators and was considered to be beneficial by some staff in that it enabled the application of "common sense" to resolve issues.

The selection of faculty is the responsibility of the principal who screens the applications and interviews the candidates. There is opportunity for input by the director of academic programs who may also interview the candidate separately from the principal and then share his impression of the candidate with the principal. Center directors' involvement in the selection process is restricted to making requests for staff and identifying the subject areas for which they require staff. When asked what qualities they felt were important for faculty, administrators included "being open minded, a sort of Renaissance man, with an academic degree with a major and two strong minors, a individual who is committed to public service with good interpersonal skills and flexibility in dealing with adult learners." In summary, the selection and hiring of new staff is centralized under the principal who looks for characteristics in a candidate that are compatible with the mission and goals of the college.

Faculty are evaluated for each course that they tutor. A three-part evaluation document is used that provides opportunity for the students to evaluate the course, the tutor, and their learning. The forms are distributed by the tutor and returned directly to the center director. The view expressed by one administrator was that the evaluation process was "useless unless there was immediate followup."

Coincidently, some faculty questioned the value of the assessment forms because they were not receiving feedback. In addition to the student evaluation, there is an annual interview with the principal that is linked to the renewal of the one-year contract. The interview was considered by one faculty member as "making you aware that you are constantly monitored." An administrator's perspective of evaluation is that it "is our primary source of information on how well we are meeting the needs of adult learners."

Of concern to some faculty was the one-year term of their appointment, that was considered to "keep you on your toes" or "always looking for something else just in case it is not renewed." One faculty member felt that the fair comparison system helps "get away from the them and us" attitude that exists between faculty and administration. A comment from a support staff member was "that the fair comparison system appears to be very democratic, however, support staff do not have much influence." Overall, neither compensation nor the one-year contract have resulted in significant staff turnover.

Administrators commented favourably on the fair comparison system stating that "what we do is only possible because of the fair comparison." Others made strong reference to the tendency of unions to strive primarily for "more pay for less work." One administrator talked about what he called the "Canadian myth" which he described as the belief that "the institution is managed to meet the needs of the learner." He suggested that in colleges with faculty unions "the institution is managed within the bounds of the collective agreement."

It is interesting to note that other administrators and some faculty shared a similar view on unions. For example, one faculty member stated that "unions were the wrong way for North Island."

The negotiations and administration of the compensation and benefit components of employment are part of the managerial subsystem. The actual benefits and compensation are part of the maintenance subsystem.

Maintenance Subsystem

The key elements of a maintenance subsystem for a college are normally detailed in documents that pertain to the terms and conditions of employment such as collective agreements and policy manuals. However, noticeably absent from North Island College's documents is a collective agreement and a policy manual in which one would normally find information detailing the compensation, benefits package and professional development opportunities for employees. Instead, the fair comparison system document acts as a quasi-collective agreement within which there is little reference to compensation and benefits and no reference to professional development opportunities. This omission left the interviews as the major source of information about compensation, benefits and professional development opportunities.

The compensation of staff and, in particular, faculty is established through the fair comparison system. The system establishes one salary for all faculty regardless of qualifications and years of experience. Linked with the compensation is the one-year contract and there were coments made both in favour of and opposed to the term of the contract. Faculty expressed some concern over the compensation, given the assigned workload, with comments like "my professional training is not recognized" or "does not cover the amount of time required to do the job."

No documents were located that contained reference to professional development or leave opportunities. However, there is brief mention in the position description of the director of academic programs of that position being responsible to the principal for developing professional development proposals.

There are some in-house professional development opportunities that are associated with curriculum development. For example, there are regular meetings to discuss changes to course content and articulation of courses with other colleges and universities. These meetings are attended by course and local tutors, the director of academic programs, and the coordinator of research and development. For some faculty, the articulation meetings with college staff and with other staff from other institutions were considered an important professional development activity where new ideas can be shared and one can "get up-to-date on the changes" in their subject area.

Professional development opportunities for faculty were considered by administrators to be adequate to meet the needs of staff. One director felt the provision of a "very extensive professional library including a good personal library for each faculty member" was an important, and yet often over-looked professional development resource. The principal indicated that "although there is no sabbatical plan, faculty were entitled to use up to eight days every four months for professional development, however, the unused days could not be carried forward."

Another aspect of the maintenance subsystem is learning and instructional materials. A major objective of the college (N.I.C., 1983-a:47) is to ensure that learning and course materials are available at each learning centre to meet student needs. An important concept is the decentralization of support services that are viewed as essential to ensure that the open learning approach is maintained. This includes the decentralization of technological support services such as audio-visual equipment to the learning centers for both individual and group use.

Maintaining the appropriate learning materials and obtaining new materials is the responsibility of the director of learning materials. As noted by the position title, the emphasis is on learning rather than instructional materials. There appears to be some similar work done by the coordinator of research and development who has the responsibility to shop for, develop and adapt open learning materials. The student instructional report which is to be completed by each student for every course completed contains a section for input on the suitability of course materials and other support services.

The library collection is catalogued and stored by course, rather than by subject, providing a student with access to all the appropriate course reference material in one location. It is interesting to note that the College does not have a librarian or student counsellors. In fact, during their shift at the learning center's duty desk, faculty are expected to be the reference librarian.

Many of the adaptive subsystem activities at North Island pertain to services that are for the learner (student centered) as opposed to the activities such as faculty development that tend to service the staff. This emphasis on the maintenance of learning activities is consistent with the college's mission to provide open learning opportunities for the residents of the region.

Another aspect of the maintenance subsystem is the various services available to support the instructional process. At North Island the primary instructional support comes from the instructional materials department that supplies the packaged course materials to students and staff. Interviews with the director and a technician created an impression of a service-oriented department whose staff was concerned about providing quick responses to requests and working with faculty in the selection and subsequent adaptation of materials for use at North Island.

The instructional materials department facilities are located in a designated area of the Courtney learning centre. A solid wall with no passageway separates the instructional materials department from the rest of the learning centre. Entrance to the department area is via a windowless (except for a small peep hole), external door that is kept locked. Visitors are required to ring the door bell and may be asked to indentify who they are if they are not recognized by the staff. These security precautions were said to minimize the theft of expensive audio-visual equipment and materials housed in the facility. The director of the instructional department, whose office is in the administration centre at Comox, added that they wanted to "isolate themselves to avoid browsing for material by faculty." He added that there are "no keep-out signs" however he felt "that faculty tend to fly by the seat of their pants and may select material without having properly evaluated it." However there was no common evaluation instrument or process used by the college to evaluate materials although the director stated "that a common method of evaluating materials would probably be helpful."

The level of clerical support to faculty was considered adequate by those interviewed. Related to support service staff, one faculty member commented "that three members of the office staff in his learning centre had just resigned." The assumption by the faculty member was that they had resigned because of "heavy workloads and low morale." This was later refuted by the center director who indicated the reasons for the resignations were due to such factors as a spouse being transferred and another was retiring from the college.

To summarize, the maintenance subsystem activities are not well defined in college documents, although there is evidence of the existence of considerable maintenance activity. The primary thrust of the maintenance subsystem is on the needs of the learner and the learning packages, followed by the needs of staff. This is not to suggest that employees are not treated fairly but rather that the college places its clients' needs before those of its staff.

For the most part, staff expressed satisfaction with their compensation and benefits saying they were about the same as other colleges except for faculty workload and vacation allotment. All the faculty interviewed commented on their heavy workloads in comparison to other colleges. Put simply, the minimum assigned workload results in a greater course load and more students than faculty in other provincial colleges. The vacation entitlement is six weeks compared to eight weeks in most other colleges and the faculty comments ranged from "why should we get less vacation than others" to "I would not know what to do with more vacation days."

COMPARISON OF THE COLLEGES' SUBSYSTEMS

Production Subsystem

The differences between the production subsystems of the two colleges were illuminated by statements made by staff during the interviews. Most notable are the differences in the role and workload of faculty, and the predominant instructional delivery system of each college.

Faculty at Malaspina have primary tasks related to the preparation of course materials and lecture notes, and a teaching load of four courses (two in each semester). Each course is normally scheduled for 3 hours per week during the fifteen-week semester. The average number of students was 35 per class and the subject matter of the course is within the faculty member's area of expertise.

Alternatively, faculty at North Island considered themselves as tutors and are not engaged in lecturing to classes or in the preparation of class materials, although they may modify materials to meet the individual learner's needs. A typical tutor's workload would include tutorial responsibility for up to fifteen different courses of which only three or four may pertain to the faculty member's area of expertise. Students can commence a course at any time throughout the year. The year-round start date for courses results in a tutor's duties spread over 46 weeks as opposed to the instructional duties of Malaspina faculty spread over 30 weeks.

Although both faculties expressed that they had considerable latitude to make changes to courses, the faculty at North Island felt constrained by the amount of change possible, given packaged courses and their lack of subject-matter knowledge in courses for which they were a local tutor. The comments made during the interviews about the amount of discretion on academic matters are similar to the results of the questionnaire which revealed that North Island staff perceived they had less discretionary opportunity to change curriculum than staff at Malaspina.

Faculty at both colleges were not supportive toward significantly changing or modifying the approaches used to provide instructional services. The faculty at Malaspina were apprehensive toward different approaches to instruction and felt they would need to know more about the implications of such approaches before using them. Ironically, faculty at North Island were similarly reluctant to the approach they were using and strongly expressed their commitment to it saying it was the only way that college offerings could be provided, given the geographic and demographic characteristics of the region.

Malaspina has two collective agreements covering instructional staff. Although there are differences, each agreement provides a delineation of expectations, procedures, and benefits. The agreements are negotiated by an association and a union, which are the bargaining agents for their members. Instructional staff at North Island do not have a contract or collective agreement that delineates the terms and conditions of employment nor is there an association or union to represent them. Alternatively, the fair comparison system is used to establish a salary grid and benefits.

Finally, the faculty at North Island frequently made strong statements about their close working relationship with students and their willingness to adapt course materials to meet the needs of the learner. Conversely, little mention was made by Malaspina faculty of learner needs and the working relationship with students.

Supportive Subsystem

Based on the documentation, there are some notable differences in the supportive subsystems of the two colleges given that the supportive subsystem includes activities related to the recruitment of students, staff, and the acquisition of other "raw material" such as operating and capital monies.

Student recruitment at Malaspina is accomplished by advertising in local media outlets and visits to the local high school. North Island makes some use of media advertising and marketing, however, also relies on the visibility of the local learning centers and "word of mouth" within the communities. Differences in student recruitment are related to both the differences in the distribution of the population between the regions and the average age of the students. North Island services a region with a sparsely distributed population, while Malaspina services a more densely populated region with a large urban area of 100,000. Malaspina receives the greatest number of applications from recent high school graduates in the 18 to 22 age range. North Island claims that the majority of applications are from mature students over 25 years of age.

In general, Malaspina tends to target the bulk of its advertising at high school students nearing graduation. North Island advertising is directed at both the high school students and adults with emphasis given to the open-entry policy - applicants over eighteen are accepted regardless of previous academic record, and to open learning - students progress at an individual pace using a personalized schedule to accommodate their needs.

The actual techniques employed to advertise and market the college to the communities include an annual catalogue of courses, brochures, newspaper and radio advertisements. Malaspina devotes more resources to advertising and marketing than North Island. For example, Malaspina has an information office and staff in the student services division that are assigned the tasks of student recruitment.

Recruitment of full-time staff is not a major undertaking at either college due to the limitations of funds. However, there are differences in both the criteria for selection and more notably in the methods of selection. Both colleges place importance on the credentials and experience of faculty, with Malaspina wanting good academic credentials (at least in the academic and career division) and subject-matter expertise in a specified area. North Island requests at least a masters degree with sufficient breadth in academic subjects to enable the applicant to tutor in more than one subject area.

The selection procedure for hiring faculty is quite different between the colleges. Malaspina uses a selection committee comprised of faculty and administrators from the division who recommend a candidate to the dean. North Island's selection procedure appears somewhat less participatory with the principal short listing and interviewing the candidates. At the discretion of the principal, candidates may be interviewed by the director of the appropriate division and/or learning centre.

Requests for funding from the provincial government are pursued actively by both colleges using similar approaches. Each institution has used its five-year plan to carefully outline budgetary needs and the potential consequences of not receiving adequate funding. The amount of operating money granted by the provincial government to colleges is determined using an enrollment-driven funding model based on the number of full-time equivalent students. North Island College has been particularly outspoken (N.I.C., 1983-a) about the funding formula claiming it discriminates against colleges such as North Island that utilize an open learning approach with continuous course registration.

However, the actual process of preparing the budget is handled differently by the two colleges. Malaspina uses a committee approach that involves the senior management and input from middle and junior management. Budget preparations are a participatory process with individual departments submitting their requests to a committee of senior managers for ratification. The board is requested to approve the budget requests that are then presented to provincial officials in a meeting with the college committee. At North Island, requests for funding are channelled through the principal who, with the board chairman, makes the presentation to the provincial officials. In addition, the principal is very active in communicating verbally and in writing the uniqueness of North Island and why it does not fit the criteria of the provincial funding formulas and guidelines.

In summary, the distinguishing characteristics between the supportive subsystems of the two colleges are the open entry and continuous intake of students at North Island versus entrance standards and a once a year intake (for the majority of educational offerings) of students at Malaspina. Malaspina has more staff assigned to student recruitment, advertising and marketing as evidenced by a student services division complete with counsellors and an information office, neither of which are available at North Island. The selection of new staff is done using a process that involves input from staff through committees, whereas North Island's approach to selection is handled by the principal without input from the staff. Similarly, the preparation and submission of budgets is by committee at Malaspina and is centralized within the central administration at North Island.

Adaptive Subsystem

From the documents reviewed, there are major differences in the characteristics of the adaptive subsystems of the two colleges. Malaspina's production subsystem is characterized by such activities as: the use of classrooms and laboratories, scheduling activities on campus, the majority of courses are scheduled between September and April, programs require full-time study, tenured faculty, collective agreements, and unions. These characteristics have a long tradition that makes change and adaptation an emotional and complex process. However, change has occurred not so much by adapting existing methods as through the creation of several hybrid units such as the fast-track department and the community education division, that have some elasticity in what they do and how they do it.

North Island's production subsystem has been developed with adaptability in mind. There appears to be few of the normal impediments to adaptation and change that are evident at Malaspina. For example, at North Island College there is no faculty association, faculty are on one-year contracts, learning and instructional materials are packaged for independent study, and the college mission statement and objectives underscore the importance of the college being able to adapt to meet the needs of the region. Adaptability in the production subsystem is evident in the use of packaged course materials from other institutions, and the dual registration arrangements with Athabasca University. Also, learning resource materials are catalogued and stored by courses rather than using conventional library methods.

North Island's approach to providing educational offerings is a major adaptation from a routine approach to instruction. The approach is stated to be compatible with the needs of the external environment. However, the extent of formal linkages with the external environment is neither well documented nor known to the staff. Comments made by staff give the impression that significant change and adaptation within North Island is constrained by the commitment to the current approach to providing educational services to the region.

Student evaluations of courses and faculty are used by both colleges as a source of information for making changes to courses and instructional methods. No documentation pertaining to the use of graduate or employer surveys was available from either college, although this activity may occur in more informal ways such as individual student verbal feedback to faculty. There are program advisory committees in place in both colleges which are a means of obtaining employer, and potential employer, recommendations on the curriculum of programs. However, neither college appears to have formalized a process to regularly survey the post-secondary educational needs of the communities served.

Activities that reach outside the organizations and into the communities served are prevalent in both colleges. Malaspina has several formal linkages with the external environment including a network of community service department advisory committees and the fast-track department. Comments by staff are positive about these and other linkages, however, there are at least three internal adaptation concerns. The first is the amalgamation of the vocational school with the college and second, the introduction of the province's TRAC system for apprenticeship training. The third internal adaptation issue has been the lack of recommendations from the alternative teaching strategies committee.

North Island, through its local learning centers and mobile units, reaches out to many of the communities in the region. North Island also publishes the monthly board agenda in all of the local newspapers inviting residents of the region to attend the meeting and to add items to the agenda.

In summary, the adaptive subsystems of both colleges have similar characteristics and function in similar ways. Each college has also given tremendous importance to being capable of adapting to the changing needs of the communities they serve. Malaspina has developed hybrid units that are quite different in their modus operandi from the rest of the college. North Island has, from its inception, adopted an adaptive response system and states that the current approach to education is the best way to meet the needs of the region. Ironically, this position by North Island can be a barrier to change or alteration of the production subsytem.

Managerial Subsystem

The managerial subsystems of the two colleges have several distinguishing characteristics unique to each college. Malaspina has a participative, decentralized approach to management, while North Island utilizes an authoritarian, centralized approach to management.

Evidence of a participative approach to management at Malaspina is visible in the numerous committees that have been established to provide avenues for input to decisions from various levels of employees. The amount of decentralization in management is in contrast to the centralization of activity on the main campus. Although a policy and administrative directive manual (M.C., 1982-b) exists, the policies allow for latitude in individual interpretation and discretionary action. One division has even developed its own policy manual (M.C., 1983-c) intended to act as a guide for faculty members. The amount of decision-making authority contained in the position descriptions of divisional deans is another indication of the decentralization of the managerial subsystem.

North Island College has centralized most of the decision-making authority within the office of the principal, and those directors with college-wide responsibilities. This approach is reflected in the centralizing of college services and administration.

The centralized model was established to minimize the costs associated with duplicating some services at each learning centre. Budgets are also centralized thereby adding to the limitations for decision making by directors and faculty in the learning centers.

Other characteristics of the managerial subsystem that staff commented on were reporting structures and evaluation systems. The Malaspina comments about the reporting structure were generally supportive. Within the academic and technical division, the rotation every three years by election of a faculty member to the chairman position was viewed as positive. The regular meetings of the chairmen were considered to foster cooperation and sharing among departments. The vocational department equivalent to chairman is the chief instructor position which is to be rotated among department staff; however, that has not happened due to a decision by the dean not to change staff.

The reporting structure at North Island seemed to cause confusion for some staff. Faculty interviewed had varying perceptions of the reporting structure. Some faculty stated they reported to the principal, while others indicated that they reported to a centre director. Faculty are actually accountable to their centre director and responsible to the principal.

Evaluation of staff was not raised at Malaspina as a problem, except for one divisional dean's practise of meeting with classes to receive input about the performance of a faculty member. This practise of the dean meeting with students without any faculty present was not considered to be appropriate. At North Island, the course and instructor evaluations did not seem to be a problem except for the frequency which gave some the impression faculty were "constantly being evaluated." North Island requests that students evaluate each course they take. The principal has an annual interview with each faculty member to review to past year's performance. Some staff considered the interview to be unnecessary, although it does reveal the centralization of the management approach at North Island.

In summary, the managerial subsystems of the two colleges are as different from one another as are their respective production subsystems. Malaspina has an open committee, participatory approach to management although there were a few comments that suggest it may not be as egalitarian as stated. North Island has, based on the comments made by staff during the interviews, very few if any committees and uses a centralized approach to decision making with little opportunity for input by line staff.

Maintenance Subsystem

The documentation available from the two colleges indicates considerable difference between the maintenance subsystems of the colleges. The primary technology of production at Malaspina is the instructor and, as a consequence, the opportunities for "maintenance" of the instructors are carefully delineated in collective agreements. The attention given to professional development in both of Malaspina's collective agreements reflects the importance given to faculty.

Alternatively, at North Island, the production subsystem is comprised of individualized open learning materials (courses) and tutors. In keeping with this learner-centered approach, the maintenance opportunities at North Island tend to focus on the learning materials. For example, both the director of learning materials and the coordinator of research and development are given the responsibility to maintain and upgrade the learning materials, however, no mention was made of professional development for faculty. Although opportunities may exist, the absence of a policy or contract clause suggests that it is not a high priority.

Additional aspects of the maintenance subsystem include the employment contracts, professional development opportunities and the availability of support services. The two employee contracts at Malaspina were considered by faculty to represent and "protect" the rights of the employee. There were some comments pertaining to the difference in compensation and benefits between the two agreements. Even the president expressed concern over the difference and would like to see one rather than the two collective agreements. Faculty had positive comments about the benefits and, in particular, the professional development opportunties.

At North Island, the use of the fair comparison system for compensation and benefits resulted in differing opinions from staff. The negative comments on fair comparison focused on the lack of recognition for experience and qualifications. Also, support staff interviewed did not feel they had equal status on the fair comparison committee. Of equal concern to all staff was the one term for all employment contracts. This was perceived to be unsettling by some staff although administrative staff indicated the advantages should the demand for certain offerings or funding change. Several staff, administrators and faculty, expressed the opinion that the fair comparison system was essential to the viability of the approach to instructional delivery used at North Island.

Professional development was part of the planning considerations mentioned by faculty at Malaspina and is clearly specified in the collective agreements. Whereas comments from staff at North Island related to a lack of knowledge about professional development funds and how they could access such funds.

Clerical support services were not considered adequate by the faculty interviewed from Malaspina. However, other auxiliary services such as library and audio-visual equipment and production were deemed as adequate. North Island staff commented positively on the instructional support services that were available.

In brief, the maintenance subsystems of the two colleges has revealed key differences in their primary focus. Malaspina's maintenance subsystem focuses on faculty development and benefits and North Island's gives limited attention to faculty development and benefits and instead focuses on the maintenance of learning materials for students.

CHAPTER EIGHT

PSYCHOLOGICAL CHARACTERISTICS

This chapter contains a comparison of the psychological characteristics of the colleges. Psychological characteristics refer to the attitudes of staff toward components of the production process used at a college. Six components or focus areas were examined: (1) technology of production, (2) raw material, (3) product goals, (4) system goals, (5) task structure, and (6) value orientation. A questionnaire was used to gather data on the six focus areas and the findings are reported and compared for the colleges.

The purpose of the questionnaire was to gather data on the profiles of staff (reported in Chapter Six) and the perceptions and attitudes of staff toward stated and practised approaches to production. A total of 260 questionnaires were distributed, 160 to Malaspina and 100 to North Island. The initial response was 138, of which three were not useable. During a follow-up visit to each college to conduct interviews, additional questionnaires were collected, bringing the total usable questionnaires to 169 which resulted in an overall return rate of 65 percent. The total of 169 was comprised of

114 responses from 160 questionnaires distributed to Malaspina College and 55 responses from 100 questionnaires distributed to North Island College.

The questionnaire (Appendix B) contained four statements on each of the six focus areas. Respondents were asked to indicate their level of agreement or disagreement by selecting the most appropriate response from a five-point scale that ranged from strongly agree to strongly disagree.

The data gathered by the questionnaire were subjected to frequency analysis and a cross tabulations. In addition, the data from the 24 statements related to the psychological characteristics were given a t-test and a factor analysis. Fourteen of the items tested resulted in a significant difference between the colleges. Twelve of the differences were significant below the .01 level and two were significant below the .05 level. The results of these statistical tests are reported in the following.

Technology of Production

The technology of production is used here to refer to two dimensions of the production process - process exceptions (routinism of tasks) and procedures for problem solving.

One of the process exception statements (Table 8) - "the tasks involved in my job are quite different from one another," resulted in a significant difference below the .01 level. The respondents from North Island agreed more strongly than those from Malaspina that their tasks are quite different from one another.

Table 8

TECHNOLOGY CHARACTERISICS

CHARACTERISTIC	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
The number of exception to my work routine is high.	3.54	1.22	105	3.72	0.99	54	-0.93	0.355
When I encounter problems they are easily resolved by referring to policies and college procedures.	2.70	1.06	113	2.89	1.06	55	-1.04	0.298
The tasks involved in my job are quite different from one another.	3.68	1.08	114	4.05	0.80	55	-2.91	0.004**
When I am having difficulties in carrying out my job I tend to draw on experience, intuition, and judgement.	4.25	0.74	114	4.29	0.76	55	-0.30	0.761

**Significant below the .01 level.

It is worth noting that there was a lack of significant difference between the two colleges on the other three questionnaire statements pertaining to the production subsystem. The search dimension of production which includes the use of guidelines and procedures versus the use of personal experience, intuition and judgement for decision making pertaining to production, resulted in no significant difference between the sample colleges. One possible explanation for this result is that the college selected because of its nonroutine approach to production (North Island) may have routine procedures used to operationalize aspects of the nonroutine production processes. This would seem to indicate the potential that the possibility exists for the "routineness of procedures" even though the techniques of production of the sample college are nontraditional.

Raw Material

The raw material characteristic pertains to the nature of the new students and the level of understanding by staff and the attitude of staff toward the students entering their college. Of the four variables (Table 9), the two pertaining to ability and objectives resulted in significant differences between the colleges.

The first statement on understanding the incoming students was: "All students accepted by the college have basically the same level of entering ability." There was significant difference between the colleges below the .05 level, however, the mean response in both colleges indicated disagreement with the statement. Respondents from

Table 9

RAW MATERIAL CHARACTERISTICS

CHARACTERISTIC	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
Students in this college have a wide range of learning styles.	4.21	0.60	113	4.36	0.72	55	-1.42	0.157
All students accepted by the college have basically the same level of entering ability.	1.49	0.69	114	1.29	0.46	54	2.16	0.033*
This college accepts students with a wide range of interests.	4.42	0.54	114	4.52	0.69	55	-0.92	0.362
Students who come to this college do so mainly to improve their employment prospects.	3.81	0.71	114	3.45	0.85	55	2.89	0.004**

* Significant below the .05 level.
** Significant below the .01 level.

North Island disagreed more strongly with the statement.

The second statement on understanding was: "Students who come to this college do so mainly to improve their employment prospects." A significant difference was found between the colleges below the .01 level. Although the staff of both colleges agreed with the statement, the Malaspina College respondents indicated stronger agreement.

Goals

The goals are divided into two categories: product goals and system goals. Product goals relate to the quantity and quality of the goods produced (graduates) and system goals pertain to explicitness and stability of organizational goals.

Three of the questionnaire statements on product goals resulted in significant difference (Table 10) between the colleges. One of the three was a statement on the quantity of production that suggested there was a linkage between the distribution of funds and student enrollment - "This college distributes its funds on the basis of student enrollment." The resulting significant difference between the colleges was a difference below the .01 level. Respondents from North Island disagreed more strongly than those from Malaspina.

The two quality control statements brought forth stronger agreement from Malaspina respondents, resulting in significant differences from the North Island respondents. The statement - "There is emphasis on quality control in this college to ensure that student learning occurs," resulted in significant difference below the .01

Table 10

PRODUCT GOAL CHARACTERISTICS

CHARACTERISTIC	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
This college places major importance on increasing student enrollments.	3.81	0.71	114	3.77	0.85	55	0.27	0.786
This college distributes its funds on the basis of student enrollment.	2.88	0.89	114	2.44	0.90	55	2.99	0.003**
There is an emphasis on quality control in this college to ensure that student learning occurs.	3.61	0.89	114	3.00	1.09	55	3.89	0.000**
This college values academic excellence by students.	3.83	0.70	114	3.52	0.91	53	2.16	0.034*

* Significant below the .05 level.

** Significant below the .01 level.

Table 11

SYSTEM GOAL CHARACTERISICS

CHARACTERISTIC	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
This college places importance on seeking new students.	3.81	0.703	114	3.52	0.912	53	2.16	0.034*
Goals of this college are clearly defined.	3.70	0.84	114	3.51	0.96	54	1.26	0.211
Goals of this college are generally well known.	3.24	0.84	113	3.07	0.96	54	1.19	0.236
This college supports trial courses in emerging fields of knowledge.	3.78	0.79	113	3.28	0.96	53	3.55	0.001**

* Significant below the .05 level.
** Significant below the .01 level.

level with stronger agreement with the statement by staff from Malaspina. The second statement on quality control - "This college values academic excellence by students," resulted in significant difference below the .05 level with the respondents from Malaspina agreeing more strongly.

The two system goal statements relating to the stability of the college resulted in significant difference between the colleges. The statement pertaining to the importance given by the college to the recruitment of new students resulted in the Malaspina respondents indicating that their college gave greater importance to seeking new students than was indicated by the North Island College respondents for their college (see Table 11). The second system goal statement on stability pertained to the support given by the colleges to trial courses in new areas. The Malaspina respondents felt there was stronger support by their college than the North Island respondents felt there was in their college for trial courses in new areas.

Task Structure

The task structure is labeled as either control or coordination activities. The control dimension of task structure is the amount of perceived discretion and control that existed at the department level. The coordination variable pertains to the interaction of staff in decision-making activities and to the existence of communications channels among the various levels of staff. Both of the control statements and one of the two coordination statements resulted in

Table 12

TASK STRUCTURE CHARACTERISTICS

CHARACTERISTIC	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
Regular meetings of department heads are held to discuss operational matters.	3.97	0.64	113	3.20	0.96	53	4.77	0.000**
The amount of discretion in instructional matters at the department level is limited.	2.31	0.94	114	3.12	1.02	54	-5.07	0.000**
Changes in policy or procedures within any department of the college are quickly communicated to other affected departments.	2.81	1.01	114	2.94	1.11	54	-0.74	0.461
Changes to operating budgets or staffing are made at the departmental level.	2.46	1.05	113	1.87	0.93	54	3.56	0.000**

** Significant below the .01 level.

significant differences at below the .01 level (Table 12).

The first questionnaire statement about the control dimension asked respondents to react to the limited amount of discretionary power for instructional matters there is at the department level. The Malaspina respondents disagreed more strongly than North Island respondents to a limited amount of discretionary power at the department level resulting in significant difference between the colleges. Also, the second statement on control that stated changes to operating budgets or staffing could be made at the department level resulted in stronger agreement from the Malaspina respondents than those from North Island.

One statement on coordination - "Regular meetings of department heads are held to discuss operational matters," had more responses in agreement from Malaspina than North Island resulting in significant difference below the 0.001 level.

Value Orientation

Value orientation of the organization was determined by the importance given by staff to organizational goals and employee benefits.

Of the four questionnaire items, the two pertaining to organizational goals resulted in no significant difference (Table 13) between the staff of the colleges. However, both the questionnaire items pertaining to employee benefits resulted in significant difference below the .01 level.

Table 13

VALUE ORIENTATION CHARACTERISTICS

CHARACTERISTICS	MALASPINA			NORTH ISLAND			T Results	
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Value	Probability
Service to the community is a major purpose of this college.	4.08	0.71	114	4.24	0.77	54	-1.27	0.208
This college places importance on the welfare and needs of its staff.	3.62	0.89	114	2.81	1.05	53	5.14	0.000**
In this college staff are actively involved in decision-making relative to their professional responsibilities.	3.55	1.04	114	3.03	1.28	54	2.77	0.006**
In this college the learning needs of the students are given priority.	3.65	0.87	114	3.61	0.99	54	0.31	0.757

** Significant below the .01 level.

The first item pertained to the importance the college places on the welfare and needs of its staff and resulted in stronger agreement by Malaspina respondents than North Island. The second statement - "In this college, staff are actively involved in decision making relative to their professional responsibilities," also resulted in significant difference with the staff from Malaspina College agreeing more strongly with the statement than staff from North Island College.

FACTOR ANALYSIS

A factor analysis was conducted on the data to search for additional factors that had not been originally considered as part of the psychological characteristics. A varimax rotation was conducted on the data using a range of factors from two through to eight. A value of .40000 was used as a minimum level for significance. The range of factor analysis from five to seven factors resulted in clustering of variables that warranted further exploration.

The factor analysis using seven factors resulted in 30 items with a value in excess of .40000. The distribution of these items ranged from ten under the first factor to one under the seventh factor. Four of the items appeared under more than one factor. Using six factors resulted in 26 items obtaining a value greater than .40000, with three of them appearing under more than one factor. The distribution of the items under the factors ranged from ten to two.

In the six-factor test, the first factor contained all four of the value orientation items, the explicitness of the system goal items, the quality product goal items, one of the production search technique items, and the task structure items on coordination. These items represent a wide range of characteristics and it was not possible to identify a common thread running through them.

The second factor resulted in a grouping of items that included the understanding and variability of raw material items and one goal item. Unlike the first factor, the second factor produced a narrower range of items, however, it was not possible to use one term to classify the factor.

The third factor produced only the two production task items as per original production ethos. The label for this factor could be simply production tasks. This factor result supports the position taken in the conceptual framework that how colleges provide educational services can be used as an organizational characteristic when comparing colleges.

The items clustered under the fourth factor include one statement from each of the following: production (search), task structure (coordination), and raw materials (understanding). The common elements in each of these items are the use and changes to college policies and a weak link between the policies and their applicability to the needs (goals) of the students. However, there appears to be very little potential to find a common descriptor that would cover all the items.

Although both items are components of the goal characteristics of the production ethos, they are addressing quite different aspects of organizational goals and could not be given a common descriptor.

Finally, the sixth factor had a clustering of four items from the following production ethos categories: goals (stability), production (search), and task structure (coordination and control). The diversity of each of these items is such that there is no common label for the factor that would adequately encompass the purpose of each item.

The test using five factors resulted in 27 items above the .40000 level with two of the items overlapping. The distribution of the items ranged from 12 under the first factor to three under the fifth factor. No distinct common labels could be assigned to the items grouped under any of the factor headings.

In summary, the factor analysis did not provide the clustering of items with sufficient commonality to permit the relabelling or a regrouping of the psychological or organizational characteristics.

SUMMARY OF THE FINDINGS

The questionnaire results did provide insight into the psychological characteristics of the two sample colleges. More specifically, it provided a means by which to check the validity of the assumptions made in the production ethos about the differences in psychological characteristics between routine and nonroutine technologies of production.

There were more differences between the colleges than similarities. In total, the sample colleges were different from one another on 13 the 24 items pertaining to psychological characteristics. Of the 13 items where significant difference was found, only six supported Perrow's concepts of technology. These results are summarized in Tables 14.

The one technology production item on process exceptions (V-25) that resulted in significant difference supported the assumption that staff working in nonroutine technology of production organizations would perceive their tasks to have more process exceptions than staff working in routine organizations. Although the other three items resulted in differences between the two sample colleges, they were not found to be significant.

The next grouping of items (V-27 to V-30) referred to the degree of variability and understanding by staff of the raw materials used in the technology of production. No significant difference was found in the variablity of raw materials, however, the results of the understanding item supported the projection that the routine production college staff would have a better understanding of the incoming students than the staff of a nonroutine production college.

One quantity of production item (V-32) resulted in the routine production college placing more importance on the number of students (quantity of production) than the nonroutine college. However, both

Table 14
Comparison of the Questionnaire
Results with the Production Ethos

Psychological Characteristic		Malaspina College	North Island College	Statistical Differences	Production Ethos
Process	V-23	High[1]	High	-	
Exceptions	V-25	High	High	MC<NIC**	Supported
Search	V-24	Average	Average	-	
Techniques	V-26	High	High	-	
Variability	V-27	High	High	-	
(Raw Materials)	V-29	High	High	-	
Understanding	V-28	Low	Low	MC>NIC*	Supported
(Raw Materials)	V-30	High	Average	MC>NIC**	Supported
Quantity	V-31	High	High	-	
(Product)	V-32	Average	Low	MC>NIC**	Supported
Quality	V-33	High	Average	MC>NIC**	Not Supported
(Product)	V-34	High	High	MC>NIC*	Not Supported

[1] High Mean 3.5 to 5
Average Mean 2.5 to 3.4
Low Mean 1.0 to 2.4

* Significant below the .05 level.
** Significant below the .01 level.

Table 14 cont'd
Comparison of the Questionnaire
Results with the Production Ethos

Psychological Characteristic		Malaspina College	North Island College	Statistical Differences	Production Ethos
Explicitness	V-36	High[1]	High	-	
(Goals)	V-37	High	Average	-	
Stability	V-35	High	High	MC>NIC*	Not Supported
(Goals)	V-38	High	Average	MC>NIC**	Not Supported
Control	V-40	Low	Average	MC<NIC**	Not Supported
	V-42	Low	Low	MC>NIC**	Not Supported
Coordination	V-39	High	Average	MC>NIC**	Not Supported
	V-41	Average	Average	-	
Benefit Identity	V-44	High	Average	MC<NIC**	Supported
	V-45	High	Average	MC<NIC**	Supported
Goal Identity	V-43	High	High	-	
	V-46	High	High	-	

[1] High Mean 3.5 to 5.
Average Mean 2.5 to 3.4
Low Mean 1.0 to 2.4

* Significant below the .05 level.
** Significant below the .01 level.

the quality statements produced results that were different from those projected. Based on Perrow (1967), there would be a moderate level of attention to quality of production in a routine organization and a high level of commitment to quality in a nonroutine production organization. The results of the questionnaire indicated that the routine organization had a higher commitment to quality control than the nonroutine organization.

The two questionnaire statements on the stability of goals resulted in significant difference between the colleges that did not support the assumption that a routine organization would place more importance on the stability of goals than a nonroutine organization. One possible explanation is the use by the nonroutine college of courses from other colleges and universities thereby minimizing to need for trial courses in emerging fields of knowledge. Many of the courses purchased in new areas would have been field-tested by the selling institution prior to implementation at North Island. In addition, the routine college in this study has more resources for in-house development of new courses and a broader programming base from which to draw to offer trial courses in emerging fields of knowledge than the nonroutine college.

Three of the four items pertaining to the managerial characteristics produced results that did not support the projections for routine and nonroutine production. This was the greatest number in any single category to refute the projections.

It was assumed that the control item in a routine organization would have a direction-oriented approach by managers and that a nonroutine organization would allow more discretion at the employee level. However, the results from this sample indicated that the staff of the routine organization felt they had more discretion than the staff of the nonroutine organization. One reason for this result may be the tendency for a collegiality to exist in most post-secondary organizations with faculty directly responsible for classroom activities with minimal direction from others. North Island (nonroutine) staff may feel they have less discretion on academic matters in that the course material is "packaged" and, in their role as course tutor, they have little influence over course content and presentation techniques and pacing.

The responses from both colleges for one of the control items (V-42) produced means between the strongly disagree and disagree rankings suggesting that neither group of respondents perceived that there was very much control over staffing and budgets at the department level.

It was projected that regular meetings and planned approaches to coordination would occur in an organization with a routine approach to instruction and a feedback approach would be more prevalent in a nonroutine organization. The results for one of the two statements on coordination did not support the projection. This implies that the opportunity to provide input to operational matters of the college occurs on a more regular basis in the routine college (Malaspina) than in the nonroutine college (North Island). However, the organizational structure at North Island is not by departments (the term department was used in the questionnaire statement) and the separate community locations of learning centers may act as an impediment to regular meetings of college staff.

Both of the benefit items (V-44 & V-45) produced results in support of the ethos implying that in the routine college more importance is given by the staff to their employee benefits than staff in the nonroutine college. Neither of the goal identity variables produced significant differences between the colleges although respondents from both colleges gave high importance to the goals of the college.

In summary, the results of the questionnaire resulted in more differences than similarities between the colleges. These results did not match the nontraditional with nonroutine or the traditional with routine organizational characteristics. A majority (seven) of the 13 items with significant difference matched the college with the nontraditional instructional delivery with the characteristics of a routine technology of production organization. However, six of the 13 items did match the nontraditional instructional delivery college with the characteristics of a nonroutine technology of production organization. The results are too inconsistent to confirm that there is a match between all the psychological characteristics identified in the production ethos and a particular approach to production.

CHAPTER NINE

SUMMARY OF FINDINGS AND CONCLUSIONS

This chapter contains a summary of the findings, conclusions, some implications for practitioners, and recommendations for future research in the area. The chapter is organized into five sections: (1) a review of the purpose of the study, (2) a review of the conceptual framework, (3) a summary of the findings, (4) conclusions, and (5) implications for practise and future research.

PURPOSE OF THE STUDY

The primary purpose of the study was to ascertain whether a college emphasizing nontraditional instructional delivery exhibits organizational characteristics different from that of college relying primarily on traditional delivery. More specifically, answers to the following questions were sought:

a) What are the characteristics of instruction used by a college espousing traditional instruction?

b) What are the characteristics of instruction used by a college espousing nontraditional instruction?

c) What are the similarities and differences in instruction used by two colleges espousing different philosophies of instruction?

d) What are the organizational characteristics of the college espousing traditional instruction?

e) What are the organizational characteristics of the college espousing nontraditional instruction?

f) What are the similarities and differences in the organizational characteristics between the two colleges?

g) What relationships are there between organizational characteristics and approaches to instruction?

Much of the research on nontraditional approaches to instruction has focused on the measurement of student achievement or the assessment of the effectiveness of nontraditional approaches to instruction. Limited research is available about how approaches to instruction influence the organizational characteristics of a college. The focus of this study was on the relationship between the instructional and organizational characteristics of two colleges. A review of the literature did produce several theories that were applicable to this study. These theories were used in formulating the conceptual framework for the study.

CONCEPTUAL FRAMEWORK

The conceptual framework (presented in Chapter Three) was developed to guide the research process. Concepts for the framework were derived from work by Perrow (1967) on routine and nonroutine technologies of production, and by Katz and Kahn (1966) on subsystems. A college's characteristics were conceptualized as having four major components: (1) instructional, (2) structural, (3) functional, and (4) psychological. These four components of a college interact in ways not fully understood, but together they do provide the composite of a college.

For each of the components of a college, focus areas were developed to explore each major category in depth. These focus areas acted as a template that was used to gather data and report the findings.

The research methodology utilized a tripartite approach to data gathering that included a review of college documents, a questionnaire to staff, and visits to the sample colleges to interview staff. The findings from the data collected have been reported in Chapters Five through Eight.

SUMMARY OF THE FINDINGS

The questions posed in the purpose of the study have been used to report a summary of the findings. The responses to the questions are considered as the first step in the process of developing conclusions from the findings.

What are the characteristics of instruction used by a college espousing traditional instruction?

Malaspina College was chosen as the college having a predominantly traditional approach to instruction. The key characteristics of instruction at Malaspina are: scheduled classes, central campus based, predominant use of lectures as an instructional technique, admission criteria based on high school matriculation, with provision for mature student admission, limited intake periods and a traditional role for students and faculty.

The approach to instruction at Malaspina requires most students to take courses at a central campus. The majority of courses are scheduled during the day over two semesters - fall (September to December) and spring (January to April). A student's progress through a course is paced by the classroom schedule that is typically three hours per course each week for fifteen weeks. Course materials are normally comprised of a textbook, reference material and lecture notes. Reference materials are housed in the central library using a standard cataloguing technique.

Admission criteria have been established for the college with some additional requirements for certain programs. The minimum requirement is normally a high school diploma, although a mature student status is available. With the exception of some vocational and noncredit programs, programs commence in September and require attendence for two years to complete the requirements.

Key elements of the course content are presented during scheduled class activities. The primary role of faculty is to disseminate course content through lecturing. Additional tasks of faculty include the management of learning processes and evaluating assignments and tests. Faculty are assigned courses in which they have formal training and expertise, with a typical workload of four courses (two each semester) and approximately thirty-five students per course.

What are the characteristics of instruction used by a college espousing nontraditional instruction?

North Island College was selected as a sample college because of the nontraditional open learning system it uses to provide educational offerings.

The college uses an "open learning system" which encompasses a network of local learning centers, and a fleet of mobile learning units. The fifteen learning centers are located throughout the college region permitting most residents of the region to take college courses in their own community. The mobile units service those communities not large enough to support a learning center. There are no scheduled classes and there is year-round entry to courses.

Course materials are packaged into formats that can be used by a student on an individual basis and, at a pace convenient to the learner. A variety of communication media are used such as audio and video tapes. Supplemental learning materials are housed in the learning centers and are catalogued and stored by courses rather than using a standard library cataloguing system. Packaged courses are normally purchased from other post-secondary institutions and are then modified for use at North Island.

The open access to college courses is an important characteristic of the open learning system at North Island. Admission criteria are minimal in an attempt to minimize barriers for adult learners. In brief, there is open admission to anyone over 18 years of age regardless of his academic background. Furthermore, registration is open throughout the year permitting students to register and start courses at any time. In addition, the college has a dual registration arrangement with a university.

The student role is determined by the use of individual learning materials that permit students to progress at their own pace. As a result of the packaged nature of the courses,students are required to pace and motivate themselves through the required material. The onus for managing the course workload rests with the student. The primary role of faculty is to support students through providing guidance, encouragement and help to those who request it. Faculty are also involved in the modification of course content and the evaluation of student assignments. Faculty function as course tutors for subject-matter courses for which they have training and as local tutors in courses with subject matters for which they have no formal training or expertise. A typical faculty workload is twelve courses with two hundred students each of whom could be at a different point within one or more courses.

Two characteristics of the college related to the delivery system are the high attrition rate of students and the flexibility in the system to accommodate individual learner needs. To assist in reducing the attrition rate, pacing sessions are scheduled for groups of students who prefer more structure. The adjustment of courses to fit the needs and the abilities of the individual student is a common practise by tutors.

What are the similarities and differences in instruction used by two colleges espousing different philosophies of instruction?

The similarities between the approaches to instruction used by the two sample colleges are limited to the use of credits to indicate the value of a course toward a program of study and the use of the province's TRAC system for apprenticeship training. The credit system similarities enable the transferability of credits from one institution to another and, in particular, enable the transfer from the colleges into the third year of university. The TRAC system was introduced by the province without any provision for an institution to opt out. Both colleges use TRAC although Malaspina has more vocational training facilities and courses. Other similarities include the use of similarly qualified faculty to work with students, although how they work with students is quite different.

The differences between the approaches to instruction are numerous and include: the use of packaged course materials for individual student use at North Island versus scheduled classes at Malaspina; learning centers located throughout the region supplemented by mobile learning units versus a central campus at Malaspina; faculty as tutors at North Island versus traditional instructors at Malaspina; student as an independent learner versus a member of a class; a continuous intake into courses versus once a year; and an open admission versus selection criteria. Table 15 contains a summary of the key differences between the two approaches to instruction.

Table 15

COMPARISON OF INSTRUCTIONAL CHARACTERISTICS OF THE SAMPLE COLLEGES

CHARACTERISTIC	MALASPINA (Traditional)	NORTH ISLAND (Nontraditional)
Delivery techniques	Classroom lectures/ Demonstration/Seminars	Audio-visual course packages
Progess through course material	Paced by the instructor	Paced by the student
Scheduling of courses	Primarily 8:30 a.m. to 4:30 p.m./Sept. to April	Determined by the student/year-round
Location of courses	Primarily on the main campus	Numerous learning centers throughout the region/student's home
Primary role of faculty	Lecturer/lab & seminar instructor	Tutor/mentor to students
Role of the student	Normally a full-time student/member of a class/meet timelines	Normally a part-time student/an independent learner/create timelines
Admission criteria	specified - high school diploma or 19 years old	open - 18 years of age minimum

What are the organizational characteristics of the college espousing traditional instruction?

The organizational characteristics of the college are classified under three main components - structural, functional and psychological.

The structural characteristics of Malaspina include: a five-level management structure, two policy manuals, two employee contracts and employee associations, decentralization of authority, numerous committees, participation by staff in decision making and an open communication system. Each of these characteristics (described in Chapter 6) results in a working environment perceived by staff as providing considerable academic freedom while providing employment security and professional development opportunities.

Within the functional characteristics, the supportive subsystem of the college is active in the recruitment of high school students through advertising, marketing strategies and visits to local high schools. More specifically, the primary population group served by the college is the recent high school graduate and, therefore, the majority of supportive subsystem resources such as the information office and the advertising budget are used to attract these candidates to the college. A significant component of the community services department is dedicated to the supportive subsystem to attract the part-time learner to the college's continuing education offerings.

Another characteristic of the supportive subsystem is the acquisition of funds. The budget process can be considered a participatory process involving input from all areas of the college.

The process draws from the knowledge and experience of everyone from junior to senior management with opportunity for input from line staff. The budget criteria and information are shared with all constituencies in the college, although it is understood by staff that the final decisions are made by the senior administrators. Even at the senior administrator level, the decision process is by consensus of the executive committee members. The presentation of the budget to the government is done by a team of administrators.

The adaptive subsystem is not particularly active and any attempt to change is a slow and cautious process. Although there are stated objectives and goals to guide adaptation, attempts to adapt to different approaches to instructional delivery have met with inaction. Most notable are the lack of results from the alternative teaching strategies committee and the need to create a special hybrid unit - fast-track - to respond quickly to changes in needs of the region.

The management practises can be described as participatory and democratic with consultation and very open lines of communication to the various levels of administration. The management levels are hierarchical, ranging from program coordinator to department chairman to associate dean to dean to president. The decision-making model includes considerable use of committees comprised of representatives from constituencies that may be affected by a decision. There is a policy manual for the college that includes detailed procedures. However, limited use is made of the policy manual and one division has created its own abridged version that outlines such items as purchasing procedures and a planning calendar of key dates.

Objectives and performance standards are used to evaluate the overall success of administrative units. The regular evaluation of faculty is a formalized process that includes input from peers and students. The openness of communications and the accessibility of administrators, including the president, to staff, are distinguishable features of the management style at Malaspina.

The maintenance subsystem, as it applies to the needs of staff, is tied to the terms and conditions of the negotiated collective agreements which detail the employee benefits and entitlement to professional development. Salary, benefits and professional development vary based on seniority and qualifications. Overall, staff appeared to be satisfied with the terms and conditions of employment although the existence of two separate bargaining units for instructional staff resulted in some inequities between the two categories of staff.

Other components of the maintenance subsystem were not as fully developed as the employee items. For example, there was an average of one clerical support person for every twenty-five faculty and limited media services for the production of learning materials, although the majority of faculty are not regular users of the media services. Also, the repair and replacement of capital equipment is not a significant component of the maintenance subsystem.

In summary the key organizational characteristics of the sample college espousing a traditional approach to instruction include: the centralization of the majority of the operation in a main campus with the control and responsibility of the activities decentralized to the operation units within the campus; extensive use of committees to assist in the planning and decision making; staff cautious toward change and the acceptance of any change is a lengthy process. The college's active supportive subsystem directs most of its resources at the recruitment of recent high school graduates for full-time study in one and two year programs. The preparation of budgets and the subsequent presentation of requests for funds involves participation from all areas within the college. The management style is consultative and open, providing opportunity for input to decision making through committees. Policies and procedures are well documented although operationally they are used infrequently except as guidelines and reference for dealing with sensitive issues. Faculty and staff benefits and terms of employment are well ensconced in the respective collective agreements.

What are the organizational characteristics of the college espousing nontraditional instruction?

The key organizational characteristics of the college espousing nontraditional delivery include: a flat organizational structure, centralization of authority and services, no policy manual nor employee collective agreement, an emphasis on serving the community, and informality of internal communications.

The college is linked closely to the communities it serves through the local learning centers, which influences the activities of the supportive subsystem. For example, the supportive subsystem of North Island does not contain a dedicated department responsible for advertising and the recruitment of students. Alternatively, the college relies significantly on information about the college offerings being spread by community members who have either taken a course or who are knowledgeable about the college. This communication is feasible due to the existence of local learning centers in numerous communities throughout the region and the small population of most communities. The college's learning center is often a predominant feature of a smaller community. In addition, the largest single age group of students is not recent high school graduates but rather adult learners who may be employed full-time or have family obligations. Information about the college is often distributed in meetings of service clubs and places of employment.

The adaptive subsystem in this nontraditional college is active in adapting courses from other colleges for use at North Island and in modifying courses to accommodate individual student needs. The college staff is firmly committed to the current approach to instructional delivery. Ironically, considerable time and energy is used to underscore why the current approach to instructional delivery is the only way to meet the needs and unique characteristics of the region. Planning and objective setting is not a regular activity, nor when it is done does it appear to include representatives from all constituencies.

The management functions are centralized although the college operations are decentralized. The college has a flat organizational structure with the major administrative responsibilities of the college limited to a few senior positions located in a central office. Operationally the local learning centers respond to the needs of their respective communities; however, they receive direction and most services from the central administration centre. Furthermore, the principal is involved directly in management activities such as the evaluation and selection of all instructional staff. Noticeably absent from North Island subsystem are committees and other vehicles normally used to obtain input and participation from college constituents on matters that may affect them.

The terms and conditions of employment seem compatible with the delivery system. The employment contracts and policies are written to allow maximum flexibility for staffing and therefore provide limited security to employees. The fair comparison system, which contains the terms and conditions of emmployment has a single grid for faculty positions independent of experience and qualifications. Each faculty member is given a one year contract which is renewed dependent on satisfactory performance and community demand for services.

The focus of the maintenance subsystem is on the needs of the clients (students) and the learning materials. For example, there is no obligation for the employer to provide professional development benefits to employees. However, the primary task of two administrative positions is to acquire new and modify existing learning materials.

The delivery system and support services are regularly evaluated to identify aspects that are not meeting student needs and to ensure the approach does not create learning barriers.

In summary, the key organizational characteristics of the sample nontraditional college include a centralized approach to management with considerable involvement from the C.E.O. and a decentralization of the college operations to numerous branch offices (local learning centers). Complementary to the delivery system are a flat organizational structure which can expedite decisions and a one year employment contract that provides the opportunity for flexibility to adjust to changes in environmental demands. There is a noticeable absence of committees and other mechanisms for input by staff on decisions that affect them. The college seems to give priority to the needs of the students (as determined by the student) and serving the communities of the region.

What are the similarities and differences in the organizational characteristics between the two colleges?

The organizational characteristics of the of colleges are more different than similar. Many of the similarities are the result of both colleges being part of the same provincial system and due to some of the conventions and customs of academic institutions. For example, the boards of governors are similar, in keeping with the province's appointment of board members and role expectations of the members. Also, the maintenance of academic standards (in part to ensure the transferability of credits) and the requirement for academic credentials by faculty are similar in the two colleges. Furthermore, the dedication of staff and faculty to their work is similar although the faculty of North Island were more overt in their support for the approach to delivery used at North Island than were the faculty at Malaspina about their college's approach to delivery.

Given the aforementioned exceptions the colleges operate differently, with North Island appearing to be the most unconventional when compared to other colleges. The key differences in addition to the approach to delivery are the location of services offered, the approach to management, the client group served, and the terms and conditions of employment.

North Island can be described as a decentralized operation using a centralized administrative model. Conversely, Malaspina can be described as a centralized operation using a decentralized administrative model. The numerous learning centers located throughout the region and the use of mobile units by North Island does contrast with the operational model of a main campus and two satellite campuses of Malaspina. At North Island the administrative model is one in which most if not all college-wide functions are centralized along with the decision making. At Malaspina, although the college-wide functions are centralized as a result of a main campus, the decision making and other administrative responsibilities are decentralized. At North Island there are no standing committees with representives from all college constituents, whereas at Malaspina there is an abundance of committees, some of which are chaired by individuals in staff positions. In brief, the participatory feature of the management approach a Malaspina is quite different from the centralized administration model used at North Island.

The client group served is different for the two colleges thereby influencing several organizational characteristics such as the advertising and recruitment, the hours and months of operation and the type of student services provided. North Island's primary target group is the adult part-time learner with Malaspina attracting the recent high school graduate between 18 and 22 who can be classified as a full-time learner. As a result of this difference North Island focuses its advertising and recruitment to reach adults in the region and Malaspina directs its recruitment at the high school students through counsellors and by visiting area schools. The hours and months of operation also reflect the differences in students. Basically, North Island offers courses throughout the year whereas Malaspina's course offerings are primarly from September to April. Differences in the type of students results in the student services being different for the two colleges. North Island's student services are limited to tutor assistance and learning resources. Alternatively, Malaspina has a full range of student services such as counsellors, athletic facilities, intramural and varsity sports, cafeteria, health care, and a day care center.

The terms and conditions of employment are dramatically different for the two colleges. As mentioned earlier the staff member at North Island is on a renewable one year contract, with no mention of professional development opportunties, and a non-differentiated pay scale. Faculty at North Island have a heavier workload, including one evening per week, than their counterparts at Malaspina. North Island faculty work a longer academic year and receive fewer vacation days. However, compensating for these differences is the direct one-on-one work with students and a reduction in the time required to prepare course materials.

The key differences identified in the above are summarized in Table 16.

What relationships are there between organizational characteristics and espoused approaches to instruction?

The relationship between organizational characteristics and approaches to instructional delivery for the two sample colleges can be described as the organizational fit of characteristics with the features of the approaches to instructional delivery and the history of the college. This fit or compatibility between organizational characteristics and instructional delivery is more noticeable at North Island than at Malaspina due in part to the non-traditional features of North Island.

At North Island the centralized administration enables the coordinated delivery of college-wide services to numerous locations without the high costs associated with replicating the services at each location. The flat organization structure allows for open communications among all levels of employees while providing a centralization of control to make decisions quickly. The lack of a

Table 16

COMPARISON OF ORGANIZATIONAL CHARACTERISTICS OF COLLEGES ESPOUSING DIFFERENT APPROACHES TO INSTRUCTION

CHARACTERISTIC	MALASPINA	NORTH ISLAND
Organizational Structure	Hierarchical	Flat
Administrative Control	Decentralized	Centralized
Operational Locations	Centralized/ Main Campus	Decentralized/ Learning Centers
Input to Decisions	Frequently through Numerous Committees	Infrequently/ No Standing Committees
Policies and Procedures	Documented in Policy Manual(s)/latitude in interpeting	No Policy Manual/use Board Minutes or C.E.O. memos/flexible
Internal Communications	Regular use of written/ student/in committees/ all channels open	Limited use of written/ Frequent use of verbal/ all channels open
Terms of employment	Represented by a union/ Tenure track/Recognition for experience and qualifications	No union/One year contract/No recognition for experience or qualifications
Student Services	Full Services on campus	Limited

policy manual may also expedite the implementation of decisions. The one year term appointment for faculty enables adjustments to be made to staffing based on changes in community demand for the course(s).

Malaspina has a collegial, participatory, approach to management that is compatible with a major component of their approach to instructional delivery - the faculty. The committee structure and input to decision making are characteristics of the college that appear to assist its operation. The collective agreements do have a relationship to the delivery system through the maintenance of the main technology of production - faculty. The agreements provide for professional development, tenure and the rotation of the chairman position, each of which is linked to the instructional process.

The importance of the relationship between the organizational characteristics and a nontraditional approach to instruction is captured in the opinions expressed by the majority of staff at North Island that their approach to delivery would not function properly without the current organizational characteristics. The comments for North Island in this vein seemed to be defending how things were done at the college. No statements were made by Malaspina staff about the relationship between organizational characteristics and instructional delivery.

The extent of non-academic services to students is another organizational characteristic that is related to both the approach to instruction and the type of students. North Island has limited service especially when compared with full services at Malaspina. The costs associated with providing services such as a counsellor or gymnasium at each of the learning centers would be prohibitive. Alternatively, for Malaspina the main campus approach makes the cost associated with providing a full range of services acceptable. The difference in the type of students would seem to also influence the extent of student services. North Island students are normally taking courses on a part-time basis, they are older than the average Malaspina student and they often have other obligations such as jobs and families. The typical Malaspina student is between 18 and 22 and a recent graduate from high school who is most likely to be single and living with his parents.

In summary, several organizational characteristics can be related to approaches to instruction, particularly those pertaining to the organizational structure, administrative control, operational locations, input to decisions, policies and procedures, internal communications, terms of employment and client services. This does not negate the relationships between organizational characteristics and other factors such as the personality and management style of the C.E.O. or the history of the college.

CONCLUSIONS

The study examined, in detail, the instructional and organizational characteristics of two colleges that have different approaches to instruction. There are numerous differences in the instructional and organizational characteristics of the colleges.

Several of the organizational characteristics have been shown to have a relationship to the approach to instruction. The extent of the relationship between characteristics and instruction is difficult to determine. Numerous other factors need to be considered to ascertain the nature of the relationship between instruction and organizational characteristics. For example, the history of the college may play a significant role in creation of organizational characteristics and the approach to instruction.

North Island has used a nontraditional approach to instructional delivery from the start. Staff were selected then, as they are today, because of their interest in, and acceptance of, the nontraditional approach to instruction. Malaspina has a longer history starting as a "junior college" by initially offering university transfer utilizing a traditional approach to instruction. Although there have been some minor attempts at nontraditional instruction, the predominant approach is traditional. The significance of the instructional approach established when a college is started becomes apparent when attempts are made to alter the status quo. In the case of Malaspina, the failure of the alternative teaching strategies committee and the lack of use of alternative approaches is one indication of reluctance to change. Of course, an unwillingness to change can be based in the belief that the status quo is the best. North Island staff are very overt in expressing their view that the current approach is not only best for the region, it is the only approach that will succeed, given the characteristics of the region.

The differences in the geography and demographics of the two regions served by the sample colleges provides some insight into the choice of approach to instruction. North Island is faced with serving a small, dispersed population whereas Malaspina services a region with a major urban center and several smaller cities. Such factors could also influence not only the organizational characteristics but also the type of staff member attracted to the region.

The college documents revealed two dramatically different approaches to management. The flat organizational structure is characteristic of nonroutine technologies; however, the centralization of authority and services is not (see Perrow 1967,1970, 1979). The relationship between organizational characteristics and the delivery systems was more clearly discernible for the nontraditional delivery college. The amount of discretionary action that could be taken by staff was very limited. Alternatively, at the college with the routine or traditional instruction there is decentralization of authority and services, and staff perceive that they have considerable discretion in making changes.

The questionnaire was used to gather data about the psychological characteristics of the colleges. The findings revealed the psychological characteristics of the two colleges were significantly different in thirteen of twenty four questionnaire items. Seven of the variables did not and six of the variables did support the assumptions about the relationship between the psychological characteristics and the approach to instruction. The results were not consistent enough to support or reject the assumptions made in this research. However, as a general comment the characteristics of the traditional instruction college were less standardized or routine than those of the nontraditional instruction college.

Interviews provided the additional detail to confirm the interpretation of the documents and the results from the questionnaires. From the interviews and visits to the colleges the impression one is given is that there is more independence from institutional procedures and issues at the traditional instruction college. Significant also was that staff at the nontraditional delivery college expressed more interest in student needs and the learning process than did the staff at the traditional delivery college. Certainly the supportive attitude on the part of faculty toward the current approach to instruction in each college is a valuable and necessary organizational characteristic to implement the delivery system.

From all three data gathered, the difference between the colleges in workload and related benefits for faculty seem to be a major organizational characteristic linked to the instructional delivery approach. Also, the organizational structure at the nontraditional college was different from the other college's structure. However, the question remains as to whether nontraditional approaches to instruction would function effectively with the organizational characteristics of the traditional instruction college.

IMPLICATIONS FOR PRACTISE AND FUTURE RESEARCH

Implications for Practise

The implications for practise are limited by the small sample size and are therefore most applicable to the two sample colleges. The major findings of the study may be of interest to the sample colleges who might ask themselves if the descriptions are accurate and satisfactory. However, there were several findings that may have applicability to college administrators.

The study revealed that there is considerable emotional attachment to the terms traditional and nontraditional instruction. It was difficult for educators to avoid associating quality or value with the terms traditional and nontraditional instruction. Traditional was equated by some to mean old, out-of-date, reluctance to change, quality, and so on. Alternatively, nontraditional was considered to describe new, untried, not proven, of questionable quality, and future oriented etc. Therefore caution needs to be exercised when using these terms to describe instruction, or when introducing changes in instruction.

The emotional attachment to traditional and nontraditional would appear to support the notion that nontraditional is more an attitude than a system (Cross & Valley:1972). For the college administrator the psychological characteristics, or the collective mind set of the staff, is an important consideration when implementing changes to the instructional processes. As was revealed in the two sample colleges, the majority of staff are supportive of the exisiting approach, independent of whether it is traditional or nontraditional, and change is viewed with caution. Any attempts to change the approach to instruction could create organizational friction and an adminstrator has to anticipate the reluctance and resistance to such changes.

Implementing a nontraditional approach to instruction requires a commitment from all staff, particularly faculty, to consider the needs and preferences of the learner before the needs of others. A willingness to minimize the barriers that are often part of traditional instruction would seem to be an important organizational characteristic. Also, a considerable amount of flexibility and elasticity in policy and procedures is helpful. The employment contract needs to contain features to accommodate the requirements of the approach to instruction.

A challenge for practitioners would be to adjust these and other organizational characteristics to be compatible with the instruction. Within the traditional instruction college a hybrid unit, fast-track, was created rather than attempting to change or adapt existing characteristics. This approach may result in a more rapid and smoother implementation of nontraditional instruction. Ironically, change to traditional methods in a nontraditional college may require the use of hybrid units or incremental changes to ensure ease of implementation.

Also of importance is how the staff perceive the students. If, for example, students are perceived by staff as the most important aspect of the college then the willingness to adjust to the needs of student through a variety of approaches to instruction may be easier. Just as students are perceived by faculty in different ways, it would seem important that administrators recognize the significance of how they perceive the faculty. The classroom and office provide the opportunity for faculty to utilize a style and approach compatible with their personal characteristics and experiences. This can result in a nontraditional college with many traditional faculty and the converse for a traditional college.

Suggestions for Future Research

This study was in many ways exploratory. The conceptual framework had not been used before to compare colleges with different approaches to instruction nor were there existing theories or research studies that had examined the same questions.

The conceptual framework proved to be a useful guide to the gathering and reporting of data about the operational aspects of a college. It provided a means by which to take a fingerprint of the college although the instruments need some refinement.

The four major components of the framework are common to colleges and therefore could be useful in future research. The instructional characteristics used did permit a detailed description of the instructional activity of a college. From the three organizational characteristics - structural, functional and psychological, there are focus areas that enable the comparison of the operational characteristics of a college. Although the study did not conclude that there is a definite relationship between instruction and the three organizational characteristics used, there were indications of linkages.

Of the three organizational characteristics the strongest linkage to instructional characteristics was the set of psychological characteristics. The psychological characteristics, may reveal more about how the staff view the operational and instructional aspects of a college and their readiness for change than the other characteristics. Ultimately, the pychological characteristics could have the strongest influence on the instructional characteristics of a college.

From the work of Perrow, a questionnaire was developed which focused on employee's perceptions of the college, which were labelled psychological characteristics. The assumptions made associating psychological characteristics with the predominant production technology were not supported. Seven characteristics were in the predicted direction, six were opposed and eleven showed no significant difference. This component of the research requires additional conceptualization to test the relevance of Perrow's ideas to college instruction.

The other organizational characteristics could use some refinement to be more applicable to educational organizations, and new terms may be needed. For example, the supportive subsystem as defined by Katz and Kahn (1966) is responsible for the acquisition of raw materials. In educational organizations the raw materials are often human, in the form of students and staff. Also, "supportive" implies providing support although, for Katz and Kahn, support services are in the maintenance subsystem.

Future research should be considered using the four components of the framework, however with a modified set of focus areas that would permit research on a larger sample without the in-depth description of organizational characteristics. Furthermore, a questionnaire should be developed to enable data collection about all four characteristics.

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-B)Malaspina College Faculty Association Collective Agreement April 1, 1983 - March 31, 1985

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APPENDIX A

RELEVANT COLLEGE DOCUMENTS REVIEWED

RELEVANT COLLEGE DOCUMENTS REVIEWED

Malaspina College	North Island College
Five Year Plan: 1983-1988	Strategic Operational Plan (1983-1988)
College Calendars 1983-85 Assorted Course & Program Brochures	College Calendars 1981 to 1985 Assorted Course Brochures
Organizational Chart	Organizational Structures & Relationships
Position Descriptions	Position Descriptions
Collective Agreements	Fair Comparison System
President's Newsletter	Several articles written by the College Principal about North Island College
Policy Manuals	Policies and Board Minutes
Annual Report 81/82 (no report prepared for 82/83)	Annual Report 82/83
Internal College Evaluation-1980	

BC SYSTEM WIDE MATERIAL

- History of Colleges in British Columbia (by B.C.A.C.T.)
- British Columbia Colleges and Institute Act
- Knowledge Network Schedule '83

APPENDIX B

QUESTIONNAIRE TO STAFF

QUESTIONNAIRE

PLEASE CIRCLE THE MOST APPROPRIATE RESPONSE

Personal Data (All information will be treated confidentially)

1) Which college are you employed by?

1 -Malaspina
2 -North Island

2) In which of the following departments/areas do you presently work?

1 -Instruction
2 -Learning Resources (Library)
3 -Instructional Support Services
4 -Registrar's Office
5 -Student Finance
6 -Administrative Services
7 -Continuing Education or Community Education
8 -Counselling
9 -Other (Please Specify) ____________________

3) Which of the following job titles best describes your present position?

1 -Instructor
2 -Counsellor
3 -Instructional Assistant or Technician
4 -Academic Administrator
5 -Instructional Designer or Research Officer
6 -Non-Academic Administrator
7 -Librarian or Library Technician
8 -Secretary or equivalent
9 -Other (Please Specify) ____________________

4) Number of years working in educational organizations. ______

5) Number of years with this college. ______

6) Highest level of education completed is:

1 -High School or equivalent
2 -College, Technical School or equivalent
3 -University-Bachelor
4 -University-Master
5 -University-Doctorate
6 -Other (Please Specify)______________________________

Perceptions of College Processes

The following items relate to how things are done within your college. Please respond to all statements based on your perception of reality. CIRCLE THE RESPONSE WHICH YOU THINK IS ACCURATE. (SA-Strongly Agree; A-Agree; U-Undecided; D-Disagree; SD-Strongly Disagree)

		5	4	3	2	1
7)	The number of exceptions to my work routine is high.	SA	A	U	D	SD
8)	When I encounter problems they are easily resolved by referring to policies or college procedures.	SA	A	U	D	SD
9)	The tasks involved in my job are quite different from one another.	SA	A	U	D	SD
10)	When I am having difficulties in carrying out my job I tend to draw on experience, intuition, and judgement.	SA	A	U	D	SD
11)	Students in this college have a wide range of learning styles.	SA	A	U	D	SD
12)	All students accepted by the college have basically the same level of entering ability.	SA	A	U	D	SD
13)	This college accepts students with a wide range of interests.	SA	A	U	D	SD
14)	Students who come to this college do so mainly to improve their employment prospects.	SA	A	U	D	SD
15)	This college places major importance on increasing student enrollments.	SA	A	U	D	SD

		5	4	3	2	1
16)	This college distributes its funds on the basis of student enrollment.	SA	A	U	D	SD
17)	There is emphasis on quality control in this college to ensure that student learning occurs.	SA	A	U	D	SD
18)	This college values academic excellence by students.	SA	A	U	D	SD
19)	This college places importance on seeking new students.	SA	A	U	D	SD
20)	Goals of this college are clearly defined.	SA	A	U	D	SD
21)	Goals of this college are generally well known.	SA	A	U	D	SD
22)	This college supports trial courses in emerging fields of knowledge.	SA	A	U	D	SD
23)	Regular meetings of department heads are held to discuss operational matters.	SA	A	U	D	SD
24)	The amount of discretion in instructional matters at the departmental level is limited.	SA	A	U	D	SD
25)	Changes in policy or procedures within any department of the college are quickly communicated to other affected departments.	SA	A	U	D	SD

	5	4	3	2	1
26) Changes to operating budgets or staffing are made at the departmental level.	SA	A	U	D	SD
27) Service to the community is a major purpose of this college.	SA	A	U	D	SD
28) This college places importance on the welfare and needs of its staff.	SA	A	U	D	SD
29) In this college staff are actively involved in decision-making relative to their professional responsibilities.	SA	A	U	D	SD
30) In this college the learning needs of the students are given priority.	SA	A	U	D	SD

APPENDIX C

RELATIONSHIP BETWEEN QUESTIONS AND ORGANIZATIONAL CHARACTERISTICS

RELATIONSHIP BETWEEN QUESTIONS AND ORGANIZATIONAL CHARACTERISTICS

Characteristic	Sub-Characteristic	Question Numbers
Technology of Production	process exceptions	7 & 9
	search techniques	8 & 10
Raw Materials	variability	11 & 13
	understanding	12 & 14
Product Goals	quantity	15 & 16
	quality	17 & 18
System Goals	explicitness	20 & 21
	stability	19 & 22
Task Structure	control	24 & 26
	co-ordination	23 & 25
Value Orientation	benefits	28 & 29
	goals	27 & 30